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6. The influence of puberty praecox upon mental growth—A. Gesell

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5. Objective differentiation between three groups in education (teachers, research workers, and administrators)—M. B. Jensen
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4 & 5. Methods for diagnosis and treatment of cases of reading disability—M. Monroe
6. The relative effectiveness of lecture and individual reading as methods of college teaching—E. B. Greene

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2. The effect of delayed incentive on the hunger drive in the white rat—E. L. Hamilton
3. Which hand is the eye of the blind?—J. M. Smith
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5. The localization of tactual space: A study of average and constant errors under different types of localization—L. E. Cole
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1. Learning and growth in identical infant twins: An experimental study by the method of co-twin control—A. Gesell and H. Thompson
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6. An experimental study upon three hundred school children over a six-year period—N. D. M. Hirsch

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6. A comparison of difficulty and improvement in the learning of bright and dull children in reproducing a descriptive selection—F. T. Wilson

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1. A study of the psychoanalytic theory of psychosexual development—G. S. Blum
   The assessment of parental attitudes in relation to child adjustment—E. J. Shoben, Jr.
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FIELD TRAINING IN HUMAN RELATIONS FOR THE PEACE CORPS* [1]

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GERARD HAIGH

A. INTRODUCTION

President Kennedy, in his March 1, 1961, special message to the Congress of the United States on the Peace Corps, gave the following reasons for sending Peace Corps volunteers abroad:

> Throughout the world the people of the newly developing nations are struggling for economic and social progress which reflects their deepest desires. Our own freedom, and the future of freedom around the world, depend in a very real sense on their ability to build growing independent nations where men can live in dignity, liberated from the bonds of hunger, ignorance, and poverty.
>
> One of the greatest obstacles to the achievement of this goal is the lack of trained men and women with the skill to teach the young and assist in the operation of development projects—men and women with the capacity to cope with the demands of swiftly evolving economics, and with the dedication to put that capacity to work in the villages, the mountains, the towns and the factories of dozens of struggling nations.
>
> To meet this urgent need for skilled manpower, we are proposing the establishment of a Peace Corps—an organization which will recruit and train American volunteers, sending them abroad to work with the people of other nations (2).

It is perhaps characteristic of an action-oriented person, like President Kennedy, to state the purposes of the Peace Corps in terms of getting a job done; but further purpose is given by the Peace Corps staff in the handbook *Working Effectively Overseas* (3):

> As a representative of the United States, he [the volunteer] will have the opportunity to demonstrate tangibly to his hosts the real qualities that characterize our people. If he does his work responsibly and well, if he has a decent regard for the feeling, customs, and opinions of his host, and if he establishes and maintains genuine friendships, he will do much to dispel the misconceptions and doubts of others about America.

* Received in the Editorial Office, Provincetown, Massachusetts, on June 14, 1965, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1966, by The Journal Press.

[1] Paper presented at the annual meeting of the American Psychological Association, St. Louis, August 31, 1962.

Sargent Shriver describes the purpose of the Peace Corps as follows:

> Our purpose, in line with our national policy, is to help individual people succeed in their personal development, to help people everywhere strive toward human dignity and physical health and political self-government. Our purpose is peace—not salesmanship. . . . [Our] . . . mission is not to convert but to communicate (1).

How can the foregoing purposes be achieved? An implicit assumption underlying the Peace Corps program is that the American way of life produces people who are capable (with minimal training) of carrying out these purposes; thus, Peace Corps volunteers spend only three or four months in training.

Initially, there was considerable skepticism about the program. The fact that it has worked out as well as it has is probably a function of the American way of life, a function of the self-selective factors that lead people to apply, a function of the procedures by which selection is made among the applicants, and a function of the training programs.

B. Campus Training Programs

An early decision in the development of the Peace Corps was to use America's universities and colleges extensively as training sites. Most units are trained for an eight-to-12-weeks period on a college campus, and many groups are given three-to-six-weeks additional training in the Peace Corps camp in Puerto Rico before being sent to the host countries.

The arrival of candidates on a college campus usually marks the first time any of them have been seen by anyone connected with the Peace Corps because candidates are selected on the basis of paper evidence, such as letters of reference, biographical material, and placement tests. Query: What do the candidates look like when they arrive for training?

This paper is based predominantly upon experiences with training at Arizona State University. The extent to which generalizations can be made will be left for others to determine.

The group that arrived at Arizona State in February, 1962, was specifically selected for the possession of agricultural skills. Forty-two of the trainees were men, 11 were women; Ages ranged from 18 to 64, with the mean at 22 and the mode at 20; Educational background ranged from high-school graduate to the Master's degree, with the average being two years of college. Candidates hailed from 28 states and tended to be a few years younger and to have less education than did members of the typical unit.

The two major questions facing the staff were (*a*) How are we going

to help these people function effectively as Peace Corps volunteers overseas? and (*b*) How are we going to decide which ones should be selected for Peace Corps service and which ones should be separated?

Because the staff consisted largely of college faculty, it is not surprising that questions concerning students were reinterpreted in terms of curriculum: therefore, what elements should be included in the curriculum to best provide training and a basis for selection?

The major elements usually included in the Peace Corps curriculum are the language of the host country, studies of the host country, world affairs, technical studies, and physical conditioning.

C. Human-Relations Training Goals

Human-relations training might be included as one part of the curriculum, but human-relations training in one sense is broader than a curricular element and should underlie all other aspects of training. It is probably the most difficult but the most essential aspect of training.

Early reports from Peace Corps volunteers serving abroad have stressed the importance of language proficiency for their work, but this emphasis probably reflects a more basic problem: namely, communication and understanding. A. T. M. Wilson, writing from extensive experience with UNESCO and WHO in selecting personnel for work in foreign cultures (4) says, "The capacity to understand the language of another ethnic or linguistic group is frequently of less importance than the capacity to understand and accept the fact that members of the foreign group will have a different outlook on life. . . ."

How can such a capacity be increased through training? We know how to teach our trainees to speak Spanish, but how can we train them to say in Spanish something that touches the heart of a campesino? We know how to teach our trainees to weld metal to metal, but how can we teach them to offer their technical skills in a manner that welds people to people? We know how to teach our trainees to achieve better the purpose of getting a job done, but we do not know so well how to train them to communicate effectively with people.

How much gain in capacity to communicate and in human-relations skills can be expected during an eight-weeks training program? Certainly, one cannot expect to induce major personality changes—i.e., to develop self-actualizers, genital personalities, fully functioning persons. The training task would be simplified if all of the volunteers met the criteria for psychological maturity at the outset; however, the popular image that all Peace Corps volunteers are

supermen is a myth. Instead, volunteers reflect a wide range of personality development and constitute a fairly representative group of Americans.

For the group of trainees that arrived in February, 1962, the following goals for human-relations training were set: (*a*) to increase the candidates' awareness of their own impact upon other people; (*b*) to increase the candidates' awareness of their own patterns for handling interpersonal conflict; (*c*) to permit candidates to explore other patterns for handling interpersonal conflict; (*d*) to increase candidates' awareness of feelings in interpersonal relationships; and (*e*) to increase candidates' awareness of their own motives in interaction with others.

All of these goals are related to self-awareness. How could we expect to achieve such goals? And to what extent might they be harmonious with the trainees' own goals in training?

To assess the degree of congruence between the goals of the candidates and those of the trainers, trainees were asked, when they arrived, why they had volunteered for the Peace Corps. The major motivation expressed was "to help other people." This motive frequently was phrased in terms of improving living conditions, but sometimes was stated as helping others to help themselves. The next most frequently expressed motivation was "to help my country." This motive was phrased often in the ask-not tradition; i.e., "Ask not what your country can do for you but what you can do for your country." The third most frequently expressed motivation concerned the desire to make some contribution toward improving international relations: i.e., toward seeing the Peace Corps as a significant part of United States' foreign policy and as having some potential for reducing world tensions.

A cluster of less frequently expressed motives concerned self-related goals, consisting of the desire to accomplish something worthwhile, to find some increased sense of meaning in life through finding one's self needed, to discover one's vocation, and develop one's career through the Peace Corps.

The great majority of motives expressed by trainees for joining the Peace Corps were outerfocused or nonself-focused. Even the self-related goals tended to be stated in terms of career and accomplishment, with less than 20 per cent of the assignees stating any form of self-development as one of their goals.

Given this tendency for trainees to be nonself-focused, how could one expect to achieve any mutuality of goals when the trainers' goals were so clearly focused on increasing self-awareness? Our answer was to use the help offered by several tribes of American Indians.

D. Field Training on Indian Reservations

The trainers attempted to move toward mutuality of goals by introducing and capitalizing upon situations within the training program that would cause trainees to be confronted with interpersonal conflict in their efforts to accomplish a task. The major method used was that of exposing our trainees to a foreign culture. They were sent to live and work on an Indian reservation during part of their training period.

Living and working with Pimas, Maricopas, and Navajos has immediate face validity for the trainee. He is able to see the direct relevance of this experience to most of his own goals expressed in relation to joining the Peace Corps.

A picture of how one capitalizes on this experience to increase sensitivity to the defined goals can be illustrated in several incidents.

In the first training program, after a few days of initial orientation, the first full week was spent on the Gila River Pima Reservation. Each day, a base camp was established in a different Pima community. The trainees ate two meals, had an evening program, and slept in the base camp. Pima women prepared the meals, and Pima men participated in most of the evening programs. After breakfast each day, the trainees were transported out of camp and were left singly or in pairs at various locations throughout the reservation. The assignment was to meet Pimas, to get acquainted, and to do some work with Pimas on any jobs that needed doing. Presumably, all of the Pimas had been informed by tribal council that the Peace Corps would be on the reservation; but it turned out that a few had not heard, and many had only a hazy idea as to what the project entailed.

At the end of the first day afield, the trainees met in small groups with staff leaders to discuss experiences. Many expressed feelings of discouragement. One described how he had spent the day chopping firewood by himself; he described an encounter with "the fat boy" who was "lazy" and who had spent the day coming and going in his car, while the trainee worked steadily to build up the woodpile. He said he wouldn't go back there again.

The group leader asked what had gone wrong. The trainee said that he had been working hard, but the Pima just wasn't there.

"Wasn't where?"

"In the yard. At the woodpile."

"Why were you there?"

"Because that's where the work was."

"Why were you where the work was rather than where the Pima was?"

"He told me to chop the wood."

"Did you have to do what he told you to do?"

In the ensuing discussion, the trainee came to see that it was his own motivation to get something done—to be doing *something*—that had tripped him up. The adage—"Don't just do something, stand there . . ." was brought into vivid relief.

The next day, the trainee came back quietly pleased with the way things had gone. He had been assigned to a different part of the reservation and had worked with an elderly Pima man gathering firewood by the river. He had been invited inside the Pima's house for lunch and had made plans at the end of the day to return.

The group leader asked what had caused the difference.

The trainee explained that he had been met at the door by a Pima and had said, "I'm from the Peace Corps. I came by to see if there is anything I can help you with today." The Pima indicated, as on the day before, that there was wood to be chopped; but this time the trainee lingered at the door to talk. During that conversation the trainee learned that many of the Pimas thought the Peace Corps volunteers were day laborers sent from Washington to help get work done on the reservation. The trainee corrected this impression and, after half an hour of talking, the two went off to gather firewood together.

E. Communication Across Cultures

The foregoing incident suggests a number of values to be found in the reservation experience. One of these is that of highlighting the problem of communication between members of two cultures. All of the Pimas speak English; so the problem was more subtle than it was with another group asked to live in a remote Navajo community for one week. Almost none of the Navajos spoke English; therefore, some of the trainees returned in the evenings feeling exhausted and irritable from their efforts to communicate all day only through sign language. These trainees suffered some of the symptoms of culture shock, an experience that trainers hoped would increase the trainees' motivation to learn the language of the host country.

On the Pima reservation, trainees learned to mistrust their own implicit assumptions of cross-cultural identity in the meanings of any concept; for example, the concept of a Peace Corps volunteer obviously had a different meaning for the Pimas than it did for trainees, with the Pimas thinking of the latter as day laborers sent from Washington.

The very term "American" created confusion for some trainees. They had been accustomed to identifying themselves as Americans (in contrast with the

members of groups outside the United States). But what does one call himself in contrast with American Indians? Some trainees experimented with the term "nonIndian," thereby assuming an implicitly inferior status. Some experimented with the term "whites," but this term seemed too general. Some tried the term "White American," but this term left out Negro trainees. The process was noticeably disrupting. Trainees learned that one's identity is shaken when one begins tampering with something seemingly so slight as the label of one's group memberships.

Most of the assignees had never met an American Indian; but all assignees had assumptions of what Indians were like, and all assignees were surprised in their initial contacts with the Pimas. Nothing could be further from the image of the noble, taciturn, hypermasculine hero on horseback than the reality of the gentle, corpulent, good-natured, talkative Pimas encountered; so trainees learned to question their own prejudgments and to question the new stereotypes that they began to substitute for the old. Soon, trainees discovered that the Pimas with whom they were becoming acquainted seemed always to be smiling and always agreeing with them and they learned that it was their own habits of asking direct questions that caused such response. After trainees learned how to approach subjects indirectly, they began to discover what some of the Pimas' real attitudes were.

F. Self-Learnings Through Cross-cultural Contact

Some of the important learnings that occurred on the Indian Reservation were self-learnings. As mentioned, most of the trainees were motivated to do a good job in the Peace Corps; but most of them seemed to see themselves as ordinary people who might not measure up to the myth about the Peace Corps volunteer. While the trainees were not outright fearful, they had varying degrees of doubt about their ability to do the job. Prominent in the evaluations of their reservation experiences was the observation that the experience had led to increased self-confidence. Trainees became optimistic about their ability to function as community-development workers overseas.

A few trainees discovered that the Peace Corps was not for them; they found their enthusiasm waned when they were confronted with the discomforts and difficult problems of living in a relatively primitive culture. After sleeping on hard ground all night, eating Saguaro-seed gruel for breakfast, spending the day with strange people, while surrounded by an unfamiliar desert landscape, some trainees found themselves longing for home and elected to leave the Peace Corps.

While only one trainee in each of two groups of over 50 trainees became

sufficiently discouraged to leave the Peace Corps, the impact of culture shock was felt by all of the trainees. Each trainee reacted with his own characteristic defenses, permitting study of those defensive reactions that might prove disadvantageous for Peace Corps work. For example, a number of trainees protected themselves from feelings of personal inadequacy by attributing the source of their frustrations to local-situation peculiarities that they expected would not prevail overseas. Such trainees complained that the Indians were apathetic; that the Indians did not really want to help themselves; that the Indians wanted the government to do everything for them; and that the Indians blamed everything on the lack of water. They argued that because the host countries had asked for Peace Corps volunteers the people in the host countries would have attitudes different from those of the Indians.

At this point, trainers read to trainees some of the reports that had been received from the first contingent of Peace Corps volunteers in the field. Excerpts, such as the following, were stressed.

> In [one particular place] . . . there is a certain amount of apathy toward community development. A community-action junta has been formed. The President's idea is that [this particular town] can get what it wants merely by sending a commission to make petitions to the government. . . .
>
> [This second location] is one of the more difficult sites. The Volunteers have been somewhat discouraged there. The people are used to having their needs taken care of by the government.
>
> The Volunteers working in this region have been trying to organize the community and to convince the people that they themselves can accomplish a great deal without the money they insist they need. One of the great problems of this area is water. Irrigation is impossible and as a consequence the people have resigned themselves to their predicament. They feel that nothing is possible until they get water, and there is no evident solution to this water problem.

The similarity of the problems mentioned in the foregoing reports to those encountered on the Indian reservation tended to check the emotional withdrawal of the trainees from the Indians' problems. Trainers continued to pursue with trainees the latter's critical reactions to some of the people with whom they were working. Trainers considered their discussions to have been successful when they resulted in explanations of the manner in which the trainee's own motivations, feelings, and concepts contributed to conflicts with the Pimas. A moment of significant discovery was reached when the trainee who spent one day alone at the woodpile saw that his critical reactions to the Pima man were influenced strongly by the press of his own urge to be doing something.

G. Conflicts in Cultural Values

Exploration of the trainees' own motivations made it possible for them to gain some distance from the conflicts they were experiencing and facilitated the discovery of cultural differences that, when not understood, contributed to the creation of problems. For example, the trainee at the woodpile felt at first that it was inexcusable for the man of the house not to join him. Another trainee cited the example of laying waterpipe with one Pima man to a house from which the owner was absent. It became apparent that the Pima are accustomed to doing work for each other and not necessarily side by side. What would be taken as a slight in the trainee's culture was simply a matter of course in Pima culture; therefore, trainees learned to look to their own culture-rooted values as possible sources of misunderstanding.

As noted by trainees, additional gains from the Indian-Reservation experience were as follows:

1. It was a toughening-up experience for rigorous outdoor living.

2. It gave trainees a chance to get to know each other in small groups and under working conditions roughly comparable to those that would be faced overseas.

3. The minimal amount of structure in this part of the program threw trainees back upon their own resources. Some trainees found themselves capable of assuming considerable individual responsibility, and all trainees were permitted to make mistakes and to learn or not to learn from them. Character problems emerged with respect to a few trainees whose immaturity was not apparent within the ensuing classroom-dominated program.

4. It gave trainees an opportunity to size up a strange community (i.e., to learn to spot leaders, to identify factions, to cope with divisions) and to find their own place in it.

5. Getting acquainted with a new culture gave trainees a vantage point for viewing their own culture, and permitted them to gain a perspective in terms of which to reassess the functioning of the Peace Corps and their own roles in it.

H. Conflict Between Field Training and Curriculum

One of the major problems encountered in developing Reservation experiences is that of integrating them with curricular requirements. The perceived necessity for including a given number of hours in foreign language, in technical studies, and in world affairs is potentially incompatible with the natural unfolding of community events.

Occasionally, the clash between the two approaches to learning is dramatic: A Maricopa house burned down while the trainees were in class. A few staff members were called out of class to respond to the emergency. Upon their arrival at the site of the fire, decision was reached that there was no way in which the trainees could help; so they remained in class. Afterwards, when the trainees learned of the fire, they voiced a strong interest in rebuilding the house; however, their class schedule kept them busy from 4:30 A.M. to 8:30 P.M. six days a week.

One could argue that this kind of problem is the very type that would provide the best possible training challenge for Peace Corps volunteers. On the other hand, training time is limited; language proficiency is essential; there is much to be learned in the technical areas; the volunteers must be conversant with American History, etc. In short, none of the curricular areas could be sacrificed.

This particular conflict was resolved when trainees volunteered their labor on their time off, mostly on Sundays.

To prevent such a conflict from occurring, one could assign a set number of weeks to formal classroom instruction and a set number of weeks to Reservation living and make the transition between the two a total one (i.e., no classes on the Reservation, and no Reservation trips during weeks on the campus).

I. Human-Relations Discussion Groups

A second major approach to human-relations training is to form small discussion groups led by staff members. An important overall strategy is to capitalize on human-relations problems that arise during the course of training and to work with these problems as they arise.

As an example, the three trainers (a psychiatrist and two clinical psychologists) opened their initial meeting with the 53 trainees by noting that the two groups were strangers to each other and posed the problem of getting to know each other. There followed a two-hour conversation during which increasingly hostile feelings were expressed about psychiatrists and psychologists, about being evaluated for Peace Corps service, and about having one's personality questioned in human-relations training.

Group leaders discussed the initial large-group meeting in the first meetings of the small groups. Questions asked trainees were as follows: Why had so much hostility been aroused? Had not the three clinicians offered to help the trainees? Why so much resistance and suspicion? Did trainees judge the clinicians in terms of stereotypes? Might the trainees not expect to find them-

selves in similar situations overseas with the roles reversed? Would it be possible that trainees, when they went overseas, would find their initial efforts to offer help met by suspicion, resistance, and hostility?

This type of questioning reflects a major technique used by group leaders. Another major technique utilized was that of role-playing problems that might be encountered overseas. During the last week of training, problems were role played in the host-country language (Spanish), with the language instructors taking the roles of nationals.

Group leaders were particularly alert to feeling expression during group discussions. Trainees tended to be action oriented and nonintrospective, so that it was difficult to sensitize them to the emotional aspect of human relations. One valuable technique developed was to introduce a half-hour period during which statements only about feelings could be made.

The kinds of problems discussed in the training groups tended to fall within three major areas: (*a*) relationships with each other within the training program: e.g., dissatisfaction over parts of the curriculum, irritability over personal habits in close dormitory living, feelings of homesickness, etc.; (*b*) relationships with the Indians: e.g., being perceived by one faction of Maricopas as having taken sides with the opposite faction; and (*c*) anticipated problems overseas.

J. Summary and Conclusions

A field-training program designed to teach human-relations skills to potential Peace Corps volunteers exposed trainees to the culture of an American Indian group and provided them with the structure of small-group discussion for exploring personal reactions day by day. Ninety-five per cent of the trainees made favorable judgments about both aspects of the human-relations program. Reports from overseas a year later underscored the contact with Indian cultures as the most effective part of the entire training program.

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AGE, SEX, AND CULTURE AS VARIABLES IN FOOD AVERSION*

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A. INTRODUCTION

The idea that the extent to which people are "fussy about food" is an index to maturity has received considerable support from psychological research.

The most recent of a number of such studies is one by Lindgren (1), who showed that rejections of food and occupation are positively correlated and that both are negatively correlated with age during adolescence and the young-adult years. He suggested that rejections of foods, occupations, or "things in general" tend to decline with age during adolescence and that the underlying factor is probably one of maturity. Earlier research, such as that by Wallen (5), had shown that food rejections are positively correlated with indices of neuroticism. If emotional maturity can be considered as a factor in adjustment, Wallen's findings can be considered consistent with those of Lindgren.

Some studies, such as those by Smith (3, 4) and Wallen (5), also reported sex differences in food aversion—with girls and women being more rejecting than boys and men—however, Lindgren (1) found no significant differences between men and women at San Francisco State College.

The purpose of the present study is to determine whether or not age and sex differences in food-rejection patterns found to be characteristic of subjects in the United States appear in Middle East samples—specifically, in Arab and Armenian adolescents. The appearance of patterns similar to those found in the United States would imply that such patterns are universal across cultures and not limited to Americans.

The hypotheses to be tested are (*a*) that the number of food rejections declines with age among students and (*b*) that girls reject more foods than boys (because most of the American studies report such differences).

Because the authors could see no reason to assume any differences between Arabs and Armenians, they expected no differences to appear in the preferences of these two groups; but they took the precaution of gathering and computing separate statistics on the two cultural groups.

* Received in the Editorial Office, Provincetown, Massachusetts, on June 15, 1965, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1966, by The Journal Press.

B. Method

A questionnaire based on the one used by Lindgren was revised to satisfy Middle East conditions and was translated into two forms: one Arabic, one Armenian. The questionnaires were given to the appropriate cultural groups in schools in Lebanon and Egypt: 360 subjects divided evenly between Arabs and Armenians; between boys and girls; and among three groups averaging 11, 16, and 20 years of age. The questionnaires were scored by counting the number of rejections.

Since a *t* test of the means showed no significant differences between Lebanese and Egyptian groups, the data of the two groups were combined for further statistical treatment.

C. Results

The analysis of variance (see Table 1) shows that significant differences

TABLE 1
Analysis of Variance

Variable	SS	*df*	Variance	*F*	*p*
Sex	82.2	1	82.2	4.02	$< .05$
Culture	152.1	1	152.1	7.6	$< .01$
Age	2083.6	2	1041.8	51.6	$< .001$
Age and culture	.9	2	.45		n.s.
Age and sex	25.5	2	12.75		n.s.
Sex and culture	8.7	1	8.7		n.s.
Age, sex, and culture	78.6	2	39.3	1.9	n.s.
Residual	7867.4	348	20.4		
Total	10298.9	359			

appear between the sex, the age, and the culture of respondents. Table 2

TABLE 2
Mean Food Rejections by Age, Sex, and Cultural Backgrounds

Group	Age 11	Age 16	Age 20
Arab boys	11.13	9.8	6.13
Arab girls	13.36	10.16	7.13
Armenian boys	13.66	9.93	6.66
Armenian girls	13.83	11.53	8.73

shows that our two hypotheses are supported: the number of rejections declines with age, and girls (in every group) make more rejections than boys. The assumption that there would be no difference between the cultures was not supported because Armenians tended to reject more foods than Arabs.

The findings suggest that the decline in food rejections with age during

adolescence may be a universal phenomenon, at least among the urbanized populations surveyed in this and the other studies cited.

As a *post hoc* explanation for the observed differences, the authors suggest that an underlying factor may be anxiety. If anxiety is a component in problems of adjustment, and if the number of adjustment problems declines during adolescence [as is shown by considerable research—see Remmers and Radler (2)], then it is possible that the number of food rejections is an index to the amount of anxiety present. The greater number of food rejections reported by girls is also consistent with the greater number of emotional problems reported by them [see Remmers and Radler (2)]. The same reasoning might explain why Armenians report a higher number of rejections than Arabs. Armenians, as a minority group in alien lands, might experience a higher level of anxiety than members of the dominant Arab culture. The position of minority-group members, particularly a minority group that has been as successful (professionally and economically) as the Armenians, is never secure. The validity of this speculative *post hoc* explanation needs to be tested, of course, by further research.

D. Summary

Results obtained with a food questionnaire translated into the appropriate languages and administered to Arab and Armenian students in Lebanon and Egypt confirmed the findings of studies conducted in the United States to the effect (*a*) that the number of food rejections tends to decline with age during adolescence and (*b*) that girls tend to reject more foods than boys. An unexpected finding was the higher number of rejections reported by Armenians. It was suggested that anxiety level may be an underlying factor in food rejections.

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SOME TRANSCULTURAL COMPARISONS OF ESTHETIC JUDGMENT*[1]

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A. Introduction

If people in Western culture who have some expert acquaintance with art are asked to compare the esthetic values of works of art, substantial agreement among the judgments is likely to be found [*see* Child (1)]. Does the agreement result from the fact that such people share certain conventions of current Western culture? Or does it arise partly because each person considers the works of art carefully enough to find in his interaction with them much the same values (positive and negative) that an art expert in some different culture looking at the same works would also find? Is esthetic evaluation culture bound? Or does it have some degree of universality because it is partly based on universal tendencies in human nature?

The kind of evidence needed to settle this question is, of course, sets of judgments on the same works of art made by experts of radically differing cultural background. No evidence of this sort seems to have been available in the past, but steps toward assembling such evidence are made in this paper and in one by Child and Siroto (3).

B. Procedure

Child, in connection with other research (2) obtained esthetic evaluations by experts in New Haven, Connecticut, of various sets of reproductions of works of art; for example, 60 postcard-size reproductions of abstract paintings were judged for relative artistic merit. Each judge divided the paintings into 10 piles of about six cards each—from the six best to the 6 poorest. A set of 32 reproductions of Bambara antelope headpieces were similarly evaluated by being divided into 10 piles arranged according to a judgment of relative esthetic merit. With smaller sets, such as 12 still-life drawings by an artist who attempted to produce for the project drawings of similar subject matter

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and style but that differed radically in esthetic value, judges were asked to rank order the items. Rating or ranking procedures were then applied to a number of such sets of pictures altogether. In view of the plans of Ford and Prothro to engage in field work in regions where there might be art experts who had had little or no contact with evaluative customs in the main stream of Western art, some of the materials just mentioned were utilized to obtain judgments in the field. From each of several sets that offered promise that the pictures would be fairly well understood regardless of the cultural background of a viewer, a trio of pictures was chosen on which the New Haven judgments seemed to justify the hope that if the three objects were compared directly one with another, New Haven experts would agree on the order of merit. With two exceptions, however, it did not prove possible to use identical trios on both field trips.

The materials, as they were judged in the field, differed in two ways from the materials originally judged in New Haven. First, in some instances the reproduction was substantially different in ways that might influence esthetic judgment (e.g., original drawings *vs.* photographs). Second, the three pictures in a set were judged as a group of three; whereas, earlier they had been embedded in a larger set of similar objects to be judged. Therefore, after the field work was complete, judgments were made in New Haven in a manner comparable with those made in the field. On this second judging in New Haven, the trios alone were presented as they had been in the field; moreover, the judging was done with the identical reproductions used in the field or with reproductions not discriminably different. In the second New Haven judging, the authors required a higher standard of expertness of the people to make the judgments. For the initial judging of the larger sets, the judges mostly had been students in the Yale Art School or graduate students in the History of Art. In the second New Haven judging, the judges mostly were professional artists or teachers of art; students were included only if they were known from earlier performance as esthetic judges to show a high tendency toward agreement with the consensus of expert judgment.

When materials identical with those used in the field were thus judged in trios by New Haven experts, the order of merit in which the three were placed usually remained the same as it had been when the three were part of a larger set evaluated by the original judges. There were, however, some exceptions in which the work originally in the middle of the three was now at one extreme or the other. Unanimity was usually not found either in the original or in the later judging, even about the relative ranking of the best and poorest pictures in relation to each other; and in some instances the dis-

agreements were fairly numerous. In view of the varying degree of agreement among the New Haven judges, we decided to report the results in two different ways: one way is to deal only with the instances of good agreement among New Haven judges; the second way, to include all the data collected.

1. First, to see whether or not good agreement among New Haven judges is confirmed by the judgment of groups in other cultures, we restricted the materials to those trios in which the works ranking first and third according to the original New Haven judges remained in those positions when the New Haven judges rated the trio alone. We have considered for these trios only the pair consisting of the highest-ranking and lowest-ranking work and have used these only if at least 12 out of the 15 new New Haven judges agreed with the original New Haven judges in the order in which they placed these two in relation to each other.

2. In order to see the results when all data collected are utilized, we have considered the evaluation of each picture by all the judges in a foreign group and have compared this evaluation with the evaluation by all the new New Haven judges who saw the same trios.

1. *Data from Fiji*

One of us (Ford) took 11 trios of pictures with him on a field trip to Fiji. There, he showed them to five men and one woman on Naviti, one of the westerly group of islands known as the Yasawas. The people of this island have been relatively isolated from influence by Westerners or by the Indians, who have become an important part of the population in much of Fiji. In recent years, some have made frequent visits to Lautoka on Viti Levu, but these trips are brief and primarily for the purpose of taking produce to the big island and bringing back such items as tobacco and sugar. Although members of the younger generation are taught English in school, they do not use English as a medium of communication. Most of the people on Naviti can read and write in Fijian, but their reading matter consists primarily of letters from friends and relatives and the Bible.

A major source of possible Western influence is the radio. Each village on Naviti has one or two radios which are constantly being played, but the people listen mostly to music and to the broadcasts in Fijian. Another source of Western influence results from the fact that several young Fijian men from the Yasawas served with American armed forces in the Solomons during World War II. The ones with whom this experience was discussed, however (although apparently having liked the Americans they knew), much preferred

the Fijian way of life and had rejected much of what they had learned of the American way of life.

In general, then, the nature and the amount of Western contact do not suggest that the esthetic standards of art specialists in the Western world are likely to have been communicated to or adopted by the Fijians resident on Naviti.

The men interviewed were competent house builders and knew how to carve wooden kava bowls and how to make coconut-shell cups. No other wood carving is done on Naviti now. People still have some of the war clubs and dance paddles carved in former times and handle them frequently during dances. The woman interviewed was a skilled mat and basket maker and tapa designer. In these respects the persons interviewed are typical of the community, and they are also typical in being to some degree artistic creators. Within the traditional style of making the objects appropriate to one's sex, there is decided freedom for individual variation. The merits of objects locally produced are discussed sometimes with reference to skill, but evaluations of art in other terms do not seem to appear in conversation. It was easy, however, to get Fijians to express preferences because the rating or the ordering of things and people by various criteria is a congenial mode of thought among them. But it was difficult to get an individual alone, so that his own private judgment could be obtained without being influenced by or influencing the judgments of others. The persons contacted would have preferred to discuss and express their opinions in a group. It is largely because of this difficulty that so few judges were obtained since we wished each set of judgments to be independent.

The instructions were to indicate the order of preference among the three pictures presented at a time. Characteristically, the judge studied the three intently for a bit and then, with no hesitation or wavering, indicated his order of preference by pointing in immediate succession to his first, second, and third choices. In conversation afterward, it appeared that one of the things influencing the judgment of the men—especially with regard to the masks—was the work and skill they judged to be required to make the masks.

Of the 11 trios of material shown to the Fijian judges, there are six that meet the criterion stated earlier for good agreement among New Haven judges on the best and the poorest of the trio. If we consider the six Fijian judges as a jury expressing Fijian opinion on the resulting pairs of works of art, we obtain the following results: for one pair, three out of the six Fijians agreed with the consensus of the New Haven judges; for one pair, four out of the six agreed with the New Haven consensus; for each of three pairs, five out

of the six agreed with the consensus of the New Haven judges; and for the sixth pair, the six Fijian judges were unanimous in their agreement with the New Haven consensus. If we treat these proportions as deviations from the chance value of .50, the average value of .78 differs from .50 with a t of 3.6, significant beyond the .01 level (with a one-tailed test).

If we regard the six pairs as a test applied to individual Fijian judges to measure how well they tend to agree with New Haven judges, we find that the six Fijians happen to distribute themselves in exactly the same way as the six pairs, so that we may generalize to a population of judges with exactly the same confidence as to a population of pairs.

If we consider all the pictures used, agreement between representatives of the two cultures is still impressive. Within each trio, each Fijian judge ranked each work as first, second, or third; and these rankings were added over the six judges. The rankings obtained from the New Haven judges were summed in the same way. The correlation between these two summed rankings over the 33 works of art is .56. As the values are interdependent in sets of three, there appear to be 20 degrees of freedom; and for this number of degrees of freedom, a correlation of .56 is significant at the .005 level (by a one-tailed test).

From the instances of excellent agreement with the New Haven judges, and from all the data considered together, there is significant evidence that the Fijian judges tend to agree with the New Haven judges in their evaluative responses to works of art.

2. *Data from Greek Islands*

Another of us (Prothro) took five trios of pictures to the Western Cycladic Islands in Greece and showed them to four local craftsmen who did creative work but who were little acquainted with the outside world of art. Two were women (one, a weaver; the other, a painter of ceramics). The other two were men (one, a pottery maker; the other, a basket maker who made objects such as purses and fans).

The islands of Serifos and Sifnos, where these craftsmen live and work, are far from the principal tourist routes. They are a few miles apart and are served by two weekly steamers out of Piraeus, as well as by fishing boats and small caiques.

Some natives of these islands have emigrated to Piraeus, and some Athenians have traditionally had their summer homes there; so the islands have ties with the mainland. In each place enquiries were made about native craftsmen, and an interview was sought with those who seemed to be of highest repute. The

field worker spent more than a week on the islands on each of four occasions and came to know the craftsmen. One of the craftsmen insisted on being joined in a long session of "testing the new wine" before he would (on a subsequent occasion!) judge the trios. Each of the four craftsmen interviewed had learned his skill as a child and had practiced it since adolescence. All were between 30 and 40 years of age. They seemed to have no knowledge of contemporary art in the outside world; for example, they had not heard of Picasso. They did their work in a traditional manner, but had won their reputations by skill and pleasing original variations. None seemed to be acquainted with theories or books about art. Conversation indicated that they had no abstract concept of "art" as a field, but thought of it as goodness in craftsmanship (Greek: *kalotechnika*).

All four of the craftsmen were literate, with a few years of primary education. They seemed to have ready access to Athenian newspapers, and the two women were interested in poetry and had some books of poetry in their homes. All were quite poor, however; and no magazines or illustrated books were in evidence in their homes. The only works of art visible, other than objects of practical use, were icons which had only modest claim to beauty. As is often true of peasants in the modern age, the persons interviewed loved to talk and discuss daily events, but the events largely were of a local nature or were political topics heard on the radio. Except for military service for one of the men, no one had traveled farther than Athens, but the men had been to Athens perhaps as many as 10 or 12 times. The women had been perhaps three or four times. They stayed with island friends during their few days in Athens and had not seen any art museums. Their products are sold through middlemen from the city who are friends or relatives of the islanders. Sales are on a basis of orders for duplicates of a sample, and the craftsmen express their originality in designing the samples. Each had probably been influenced by seeing the artifacts brought by summer visitors and by discussing orders with those visitors.

Of the five trios shown, only three met the stringent criteria described for good New Haven agreement on the best and the poorest of each trio. For one of these pairs, two of the four judges agreed with the New Haven consensus; for another, three agreed; for the third, all four agreed with it. The proportion of agreement with New Haven judges is almost as large as for the Fijians (75 per cent, in comparison with 78 per cent), but with so small a number of pairs the deviation from the chance value of 50 per cent is not statistically significant ($t = 1.73$, $df = 2$). The numbers of pairs for which the Greeks agreed with the New Haven consensus were (for the four

artists) one, two, three, and three (out of the three available). The results, however, are not statistically significant ($t = 1.57$, $df = 3$).

When all of the 15 pictures judged by the four Greek artists are considered, the correlation between the summed rankings and those given by the new New Haven judges to the same pictures is positive, but it is too small to be statistically significant ($r = .28$, $df = 8$).

The small body of evidence from these four Cycladic Islands artists, then, suggests a tendency for esthetic judgments to agree with those made by experts in New Haven; but the evidence is not statistically significant.

On the same field trip there was opportunity to show the same pictures to two artists who do have some sophistication in the art world: a woman artist of Thessaly and a man who is an interior decorator there. Each of these two agreed with the New Haven experts on every one of the three pairs on which the New Haven judges were well agreed. When the evaluations by these two artists of all 15 pictures used are compared with those obtained from the New Haveners, the correlation is .86.

C. Summary and Conclusion

Six residents of a remote Fijian village (all engaged to some extent in craftwork) and four craftsmen in the Cycladic Islands of Greece expressed preferences within trios of works of art, which were also evaluated for relative esthetic merit by Americans greatly interested in art. Significant evidence of agreement was found between Fijians and Americans. Greek craftsmen also tended toward agreement with the American judges, but the tendency was not statistically significant. Taken together, these two sets of data strongly suggest a tendency toward transcultural agreement in the evaluation of works of art, by people with an active interest in art. Previous studies (4, 5) which have looked for transcultural agreement in esthetic preference between people not selected for interest in art and failed to find it must be re-evaluated in the light of the present data. Esthetic responses to works of art may be made only by some people in most communities (perhaps by everyone if favored by the culture), yet show some consistency wherever made.

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COMPARISON OF ESTHETIC JUDGMENTS BY AMERICAN EXPERTS AND BY JAPANESE POTTERS* [1]

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A. INTRODUCTION

Does a person who has developed some expertness in art within a particular cultural tradition have evaluative standards that resemble those of experts in other cultural traditions? or are esthetic evaluations entirely relative, varying arbitrarily from one culture to another? Many psychologists, social scientists, and art experts (influenced by the general position of the cultural relativism so prevalent in recent times) take it for granted that esthetic evaluations are completely culture bound. On the other hand, most theories of esthetic value (while not explicitly facing the problem of cultural variation) imply the existence of universally valid esthetic standards.

The results of two small-scale studies (1, 2), which encourage the belief that there is some element of universality in esthetic evaluation, had become available when one of us (Dr. Iwao) was planning to return to Japan after several years of study in the United States. By this time the other (Dr. Child) had prepared a larger quantity of suitable stimulus materials than had been available at the time of the earlier studies. The authors decided to take advantage of the opportunity to see whether or not people working in the arts in Japan (in relative isolation from Western European art) would make esthetic judgments showing any degree of similarity to those made by American art experts. Pottery makers seemed a suitable group to study, as the nature of their work calls for some degree of esthetic judgment; yet they are relatively uneducated and isolated and less acquainted with Western traditions of fine art than are many other kinds of artists and collectors in present-day Japan.

B. SUBJECTS

Sixty potters, representing three distinct groups, were interviewed. The largest sample, 36 potters, was from Tanba, a small village where pottery has

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been made for many centuries. About 35 families are now engaged in pottery making there, each family having its own oven. The second-largest group of 14 potters was from Izushi. In this village there are five ovens, the largest of which has 15 potters at work. The smallest group of subjects, 10 potters, made Kiyomizu ware in the city of Kyoto. Kiyomizu ware is made in large organizations; the one from which we obtained our 10 subjects has over 100 workers.

All the potters work in a definite tradition, a different one for each of the three groups, yet in a manner that permits some degree of individual expression. There is reason to believe, therefore, that experienced and successful potters would have esthetic standards, as well as the purely technical ones required for making replicas of fixed patterns. In all three groups, the potters seem to think of themselves as artists—not as copyists—and are considered as artists by others, but they do not usually sign their work. In general, the potters interviewed have had long experience, averaging 19 years. Only four have had less than five years of experience, while the others have had experience ranging up to 50 years. Most of the persons interviewed began work in their teens. Only four were women. Their educational attainment probably does not exceed the sixth grade, except for the younger Kiyomizu potters who may have been through the ninth. They are not likely to have been exposed to Western art in school nor are there obvious sources of influence from Western art outside school. Japanese newspapers contain few illustrations of art, and the same is true of the magazines likely to be seen by Japanese of the potters' socioeconomic level. Kyoto is a city which many foreigners visit, but even there the potters are not likely to have seen abstract painting deliberately presented as such, even though they may have seen advertising posters influenced by it. It is highly improbable that any of the potters had ever seen any of the works whose reproductions provided the material for this study.

The potters of Izushi and Tanba were interviewed by a university student from that part of Japan who can speak the local dialect. He had previously had training in data collection in social psychology and was prepared for the present work in conferences with Dr. Iwao. The potters in Kyoto were interviewed by Dr. Iwao.

C. Materials Judged

Materials judged were of two kinds.

1. The first type consisted of pairs of black-and-white photographs, $4'' \times 5''$. Each pair represented two works of art of similar kind, style, and subject matter; and one had been judged better esthetically by the person who had originally picked out the two. Each such pair was first made into slides; and

only those pairs of slides on which at least 12 out of 14 expert judges in New Haven, Connecticut, agreed with the original selector were considered suitable. Prints were then prepared of 51 such pairs considered promising for transcultural study because understanding them seemed to require a minimum of specific cultural knowledge. Since 51 pairs would have taken more time than it was possible for most potters to spare, the set was divided at random into two halves. Twenty-six of the 51 pairs were shown to odd-numbered subjects (numbered, that is, in the order in which they were interviewed); the other 25, to the even-numbered subjects. Meanwhile, the pairs of photographic prints were judged by a new group of New Haven experts; and we required that when shown in this form rather than as projected slides there be no more than three disagreements with the original selector (out of 15 new judges for some of the pairs and 17 for others). Fifteen of the 51 pairs did not meet this requirement of agreement among the New Haven experts; therefore, they were disregarded in the analysis of the Japanese data. It happened that of the remaining pairs whose results were to be analyzed, 21 were among those which had been shown to the odd-numbered subjects and 15 among those shown to the even-numbered subjects.

2. The second type of material consisted of pairs of postcard reproductions (in color) of abstract paintings. Sixteen pairs had been selected on the basis of earlier expert ratings of groups of postcards, and only four of the pairs failed to meet the criterion of no more than three disagreements among 17 new expert judges in New Haven. The 16 pairs of abstract paintings were shown to all 60 Japanese potters, and the judgments on the 12 on which there was excellent agreement in New Haven were analyzed.

D. Procedure

The New Haven judges had been asked to indicate which work of art in each pair was in their opinion better as a work of art—that is, esthetically superior. The Japanese language lends itself to asking substantially the same question. The words used were *"Dochiraga geijutsutekini sugurete iruto omoi masuka?"*

In Izushi and Tanba, there were no barriers to participation in the research. The potters were free to take time off from their work, and a friendly and respectful attitude toward the interviewer as a young man of their locality who had gone to the university in Tokyo favored interest in the project. In Kyoto, on the other hand, with the potters working in something more like a factory system, it was possible to arrange interviews only during lunch hours or other rest periods. This difficulty, however, does not seem likely to bias results; all

the potters approached seemed to be willing to participate, and the limitations came from their working conditions.

Judgments were collected in individual interviews. The pairs were presented one at a time: black-and-white pairs first, then the colored abstracts—and the interviewer recorded which work in each pair was judged to be the better.

E. Results

If the esthetic judgments of the Japanese potters and of the New Haven experts were determined completely independently, one would expect that the odd-numbered potters (who saw 21 black-and-white pairs on which the New Haveners were well agreed) would on the average agree with the New Haven experts on 10.5 pairs. The result was agreement with the New Haveners on 13.1 pairs. The t value for the departure of this mean from the expected value of 10.5 is 5.3. The even-numbered subjects (who saw 15 of the black-and-white pairs on which New Haveners were well agreed) agreed with the New Haveners on an average of 8.8 of the pairs instead of the 7.5 that would be expected on the hypothesis of complete independence. The t for this difference is 3.2. For the colored abstract pairs, all the subjects may be considered together because they saw the same pairs. On the average, they agreed with the New Haven experts on 6.9 of the pairs instead of the six that would be expected on the average by chance. This departure from chance expectation has a t value of 5.8. All these results are significant statistically, leading to a rejection of the null hypothesis at the .01 level or beyond.

Another way of indicating the tendency toward agreement is by explicit reference to individual differences. Of the 30 potters who saw 21 black-and-white pairs on which New Haveners were well agreed, only four failed to agree with the New Haveners on more than half of the pairs. Of the 30 potters who saw 15 black-and-white pairs on which the New Haveners were well agreed, only eight failed to agree with the New Haveners on more than half. The lowest score for agreement was 27 per cent; the highest, 91 per cent. The differences among individual potters in tendency to agree with New Haven experts are not, however, highly consistent. For the group seeing 21 items, the alpha coefficient of internal consistency is only .37; and for the group seeing 15 items, it is .38. For the colored abstract pairs, only five out of the 60 potters agreed with the New Haven experts on fewer than 50 per cent of the pair; another 18 agreed with the New Haveners on exactly half of the pairs; and the remaining 37 agreed with the New Haveners on more than half. The scores range from a low of 33 per cent to a high of 83 per cent. This variation among individuals showed no evidence of internal consistency;

the alpha coefficient was actually negative, a result that could presumably occur only by chance.

The amount of agreement can also be expressed by reference to differences among pairs. Among the 36 black-and-white pairs on which the New Haven judges were well agreed, there were 27 on which a majority of the Japanese potters also agreed; there were eight on which a minority of the potters agreed with the New Haveners; and one on which the potters were split 50-50. The black-and-white pairs varied from one on which only 27 per cent of the potters agreed with the New Haven experts to one pair on which only one out of 30 potters failed to agree with them. An alpha coefficient expressing the average consistency of the ordering of the pairs by a group of 30 potters, with respect to percentage of agreement with New Haven experts, has the value of .69 for the set of 21 black-and-white pairs and .82 for the set of 15, indicating very considerable stability. Among the colored pairs, response varied even more, from 22 per cent to 97 per cent agreement. The alpha coefficient, separately for the two sets of potters shown different sets of black-and-white pairs, is .89 or .86. A majority of the potters agreed with the New Haven experts on only seven out of the 12 pairs. It is because their agreements (on the average) are greater than their disagreements that there is evidence of tendency to agree.

To summarize, both for varied pairs of black-and-white photographs of works of art and for pairs of colored postcards of abstract paintings, there is evidence that Japanese potters tend to agree with American experts in making esthetic judgments, but the amount of agreement is not large. Where complete independence of judgment would be expected to yield 50 per cent agreement, the agreement obtained averages 61 per cent for the black-and-white pairs and 57.5 per cent for the abstract paintings. This deviation from chance agreement is, however, highly significant.

F. Discussion

The most obvious interpretation of our findings, and the one to which the authors are inclined, is to suppose that the data reflect a tendency for people interested in art (regardless of their own particular traditions) to agree on some aspects of esthetic evaluation. On this interpretation, the fact that the agreement between New Haven experts and Japanese potters is not very close may be due to the fact that either or both groups based their evaluations very largely on aspects of the art on which there would be little, if any, tendency toward transcultural agreement.

An alternative to be considered is that the agreement that was found

emerged not from independent currents in Japanese and Western culture, but from the influence of one upon the other. The most conspicuous influence has been that of Western culture upon Japan; thus, the Japanese potters might show some tendency to agree with New Haven experts as a result of some slight or indirect contact with Western art. There is no simple way to deal altogether conclusively with this interpretation. Insofar as it involves a supposition that mere exposure to some Western art would lead anyone to agree with Western experts, we do have some relevant comparisons to make.

Of the 36 black-and-white pairs reported on in this study, 26 were shown (as projected slides) to several hundred suburban-New Haven high-school students, who were asked to express their personal preference between the two works in each pair. Their average agreement with the New Haven experts was 47 per cent, whereas the Japanese potters averaged 63 per cent agreement with the New Haven experts on these particular pairs. A smaller number of these pairs—nine of them—were used in another study in which Connecticut suburban high-school students were asked to make esthetic judgments: i.e., to say which in each pair they considered to be the better work of art. Here the high-school students showed 57 per cent agreement with the New Haven experts instead of the 68 per cent agreement shown by the Japanese potters. In still another instance, 31 of the pairs were shown to Yale College undergraduates, who were asked to make esthetic judgments; they showed 64 per cent agreement with New Haven experts instead of the 61 per cent shown by the Japanese potters. General samples of high-school or college students in or near New Haven, then, agree with New Haven experts either substantially less than the Japanese potters or else to about the same extent, despite their being completely immersed in Western culture and infinitely more experienced with Western art. Clearly, the agreement of the Japanese potters cannot be explained as any simple or automatic consequence of some slight exposure to Western art.

G. Summary

Japanese potters were asked to judge which was the better work of art within each of many pairs of reproductions for which American experts were well agreed about which was better. Thirty potters judged 21 pairs of black-and-white reproductions; another 30 potters, 15 other black-and-white pairs; and all 60 judged 12 pairs of colored abstract paintings. Agreement with the American experts was found in 62 per cent of the judgments on the first batch of black-and-white pairs, 59 per cent of the judgments on the second

batch of black-and-white pairs, and 57.5 per cent of the judgments on the colored pairs. Each of these values differs significantly from the chance value of 50 per cent.

This agreement, because it exceeds that of many nonexpert Americans, must be connected with the artistic interest or activity of the Japanese potters. We propose that its origin lies partly in the independent discovery, by people in differing culural traditions, of similar facts about the adequacy of particular works for satisfying esthetic interests.

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MEASURING THE ACHIEVEMENT MOTIVE IN BRAZIL* [1]

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A. INTRODUCTION

This paper summarizes research done in Brazil employing the projective technique for the measurement of human motivation developed in the United States by McClelland, Atkinson, Clark, and Lowell (3). For this technique, the present author has used the name "Projective Method of Motive Evaluation" (Método Projetivo de Avaliação da Motivação) and refers to it as M.P.A.M.

The general purpose of the research was to evaluate the new technique by applying it to individuals who belong to a culture different from the one in which the method was developed. *E* wanted to ascertain whether or not a method that is projective and that involves the analysis of imaginative stories operates as satisfactorily in a Brazilian environment as it does in the one in which it was originally proposed.

The design involved checking to see whether manipulating the achievement motive experimentally, as in the United States, has the same effects on achievement imagery in fantasy in Brazil. A point of particular interest was to see if the arousal effects were the same in women as in men, since previous work in the United States had shown that they were not the same (1, 3, 4, 5, 6).

E selected the interruption-of-tasks technique as the means of arousing achievement motivation, the effects of which could then be measured projectively (through the M.P.A.M.) rather than through recall, as in Zeigarnik's and others' studies. It was assumed that success in completing tasks tends to reduce achievement motivation and that failure tends to intensify it. The effects on fantasy of such experimental manipulations could then be compared with the effects of a neutral condition in which the motive was not aroused at all. Furthermore, including a neutral condition permits comparison of need-achievement scores obtained by Brazilian students with those obtained by American students under similar test conditions.

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[1] The author is grateful to David C. McClelland for his criticisms and kind revision of this paper.

B. Method

The subjects were three groups of each sex selected at random from among university students in two schools in the city of São Paulo. The groups of male *S*s were composed of 30 individuals each; the female, of 40 each.

Because *E* wanted to compare Brazilian with American need-achievement scores, he used for the male *S*s four pictures for eliciting stories employed in the United States, originally identified as B, D, G, and H (3). The pictures for the female *S*s were devised anew because *E* did not find adequate pictures among those used in the United States. In designing pictures, *E* tried to create situations characteristic of the sex and which presumably were "suggestive" in arousing achievement motivation in women. The themes chosen were a woman sewing, a woman handing a paper to a seated girl, a girl in a chemistry laboratory, and a young girl seated in front of a book.

Short tasks and long tasks, accompanied by simple instructions such as "put the words in order," "cross out letters or numbers," "add," "substitute by code," etc., were chosen. The long tasks were identical with the short ones except that they included a greater number of items.

The procedure did not vary with the sex of the *S*s; but the three male groups were designated A, B, and C and the three female groups A′, B′, and C′. For group A or A′ the M.P.A.M. was administered under neutral conditions; i.e., each *S* was asked to cooperate in the study of a "new test of creative imagination." For the other two groups (B and C, or B′ and C′), experimental conditions were introduced to intensify motivation. Groups B and B′ were given the short tasks; C and C′, the long ones. These tasks were presented to the student as *general-intelligence tests, already applied in the United States, composed of various subtests which, besides general intelligence, also measured the capacity of promptly understanding and executing, in writing and without mistakes, certain instructions. For this reason although the tests were relatively easy, the time taken for their solution was considered to be important.*

The time limit was just sufficient for the individuals whose tasks were short to complete them. As the two groups worked in the same room and did not know that they were being given tasks of different length, *S*s whose tasks were short enjoyed a success situation for invariably they had more time than they needed to solve all the items in each subtest; while *S*s whose tasks were long experienced frustration or failure since the time limit was never sufficient. The first condition (short tasks) is indicated as the *success condition;* the second (long tasks), as the *failure condition.* After administration of the tasks,

which (according to the instructions given to the *S*s) constituted the chief purpose of the research, the M.P.A.M. was given with the comment that it was a creative-imagination test under study, being administered to them only to take advantage of the fact that they were assembled. Each slide of the M.P.A.M. was presented 20 seconds and was followed by a four-minute interval during which each *S* was to write a story suggested by the slide.

C. Results

The stories were scored for need-achievement according to the third revised system proposed by McClelland *et al.* (3) and yielded the results shown in Table 1. Table 2 summarizes the analysis-of-variance results. Need achievement for the experimental groups (both men and women) is significantly greater than for the neutral groups, as the *F* ratios show.

TABLE 1
Mean Need-Achievement Scores

Test condition	Male subjects *N*	Mean	*SD*	Test condition	Female subjects *N*	Mean	*SD*
A. Neutral	30	6.43	3.24	A′. Neutral	40	7.55	3.56
B. Success	30	7.93	4.11	B′. Success	40	9.35	3.57
C. Failure	30	9.73	4.39	C′. Failure	40	11.05	4.01

TABLE 2
Analysis-of-Variance Results

Source of variance	Male subjects Mean square	*df*	Variance estimate	*F*	Female subjects Mean square	*df*	Variance estimate	*F*
Experimental conditions	164	2	82.0	5.09*	245	2	122.5	8.63**
Individuals	1399	87	16.1		1661	117	14.2	
Total	1563	89			1906	119		

* $p < .01$.
** $p < .001$.

The significance of the differences among the three groups of each sex can also be tested by pairs. Because the groups had the same numbers of subjects (30 in each male group and 40 in each female group), a critical difference can be computed, as suggested by Lindquist (2), for a given degree of significance. At the .05 level, the critical difference is 2.06 for the male groups and 1.67 for the female groups. The differences between the means in the case of the male groups (1.50, 1.80, and 3.30) for the groups A and B, B and C and A and C, respectively, show that only the difference between the

groups A and C is significant. In other words, the mean need-achievement score for male *S*s in the failure condition is significantly higher than that for male *S*s in the neutral condition. For *S*s in the success condition, the difference is in the same direction, but is not significant. In the case of the female groups, each of the three differences between groups A′ and C′, A′ and B′, and B′ and C′ (3.50, 1.80 and 1.70) is significant. Both groups of "aroused" *S*s scored higher than *S*s in the neutral condition, and *S*s who "failed" scored higher than those who "succeeded."

The scores obtained in group A (Brazilian male students—neutral condition) can be compared with the scores of a group of 32 American male college students, obtained under the same experimental condition by Atkinson (3). For the Brazilian group, the mean need-achievement score is 6.43 ($SD = 3.24$); for the American group, 6.63 ($SD = 4.26$). The difference between these means is not significant ($t = .206$).

D. Discussion

The results confirm the hypothesis that the projective method of measuring achievement motivation under study yields results similar to those obtained in the United States. More specifically, giving Brazilian students experiences of success and failure has similar effects on their achievement imagery, when it is defined in terms of competition with a standard of excellence. In spite of the cultural determination of such standards, the scoring definition is apparently sufficiently general to detect the same experimental effects on fantasy in Brazil. Of course the universal applicability of the scoring definition can only be admitted after satisfactory results have been obtained in a number of cultures. On the other hand, the results of the present study are sufficiently encouraging to support the belief that it will be possible to study the intensity of the achievement motive itself as it varies from culture to culture.

A new finding of this study is that achievement imagery can be increased by experimentally manipulated success and failure in women. Previous results obtained by Veroff (4), Wilcox (6), Field (1), and Veroff, Wilcox, and Atkinson (5) with women did not confirm the arousal effects obtained with men. As the present author was especially interested to ascertain whether the M.P.A.M. technique was applicable to women, he profited from the earlier negative results in the United States and paid particular attention to factors that may not have been sufficiently considered by American experimenters. First, he tried to create greater ego involvement for the success and failure conditions by stressing the achievement instructions for the long and short tasks. Second, for the female groups he used pictures with only female figures

in them. This fact is important because in the American research the so-called "female plates" contained at times figures of each sex. While this difference may seem trivial, it might provoke notable alterations in the projections of women. Because of the higher prestige attached to male figures, female *Ss* (while not identifying themselves with the male figures) may start to tell stories about men that do not reflect their own motivation but simply cultural attitudes toward work and achievement in men. This is, of course, only a hypothesis which cannot be definitely confirmed with the data available; but it suggests an interesting line for future research with the M.P.A.M. On the other hand, it is possible that the differences observed between this study and the American studies are not due to differences in the way the pictures were made but to real differences between Brazilian and American female students. It is possible that, as Brazilian culture does not totally accept the attendance of women in university courses and as the reduced number of university courses limits opportunities and creates competition with the male sex for entrance into these schools, the woman who succeeds in entering a university in Brazil might represent a motivational type nearer to the male.

The results for the three experimental conditions demonstrated almost always a significant increase in mean need-achievement score for both sexes in the passage from the neutral to the success condition and from the success condition to the failure condition. These results give support to the validity of the method of measurement, but if one considers that the achievement motive can be *satisfied* by success and *aroused* by failure, the results from the groups that worked under the success condition might seem contradictory, for success in the previous tasks (by satisfying the achievement motive) should produce the lowest need-achievement mean and not the intermediate one. But one must remember that in the neutral condition *E* gave instructions that would not arouse motivation other than that existing, and that with the success and failure conditions the instructions insured an ego involvement in the situation (before the application of the M.P.A.M.) that was enough not to be totally reduced by the success arising from the completion of the short tasks.

As to the comparison between Brazilian and American students, the results showed a small and insignificant difference between the means of the two groups. The equivalence of the means, however, must be evaluated with caution. The scoring was done separately by judges belonging to the same culture as the *Ss*; so it is possible that a real difference between the groups was cancelled by a systematic bias in the judges due to the fact that these belonged to different cultures. The comparability of the means, therefore, should be checked by larger researches specifically planned to compare the

intensity of the achievement motive in the two countries. The present finding may be taken as a suggestion that there is no difference in the average need-achievement score of Brazilian and United States male university students.

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CROSS-CULTURAL COMPARISONS OF COLLEGE STUDENT MARITAL-ROLE PREFERENCES*

California State College at Los Angeles and University of Hawaii

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A. INTRODUCTION

The most casual observer in Japan notices that the marital-role expectations and the behavior of Japanese differ from those of Americans; families appear to be strongly husband dominated, and equality of the marriage partners in decision making is not as prevalent as it is in the United States. A series of recent studies has compared the marital-role preferences of male and female university students in Japan and in Hawaii, in order to verify these observations (1, 2).

The authors of the studies cited recognized that obtaining a representative sample in studying attitudes in large, geographically "spread-out" cultures is a major problem. Iwahara (5), to help rectify this shortcoming, extended the original population of Japanese university students by adding samples at three additional Japanese universities. His results indicated significant differences among some of his subgroups; i.e., male samples indicated greater preference for male-dominant roles than did female samples (consistent with the findings of earlier research), and both male and female samples at institutions with high prestige showed more equalitarian marital preferences than did students at universities with lesser prestige.

The present study is an attempt to extend the American phase of the research by introducing a Japanese-American population in a community usually believed to have less traditional Japanese influence than does Hawaii and, simultaneously, to add an American-Caucasian population that might be more typical of that in urban American communities than students attending the University of Hawaii. The authors felt that California State College at Los Angeles, a large urban institution located near downtown Los Angeles and drawing from an extreme diversification of social class, racial, ethnic, and religious groups, fulfilled the requirements.

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B. Method

Jacobson's scale (6) was used to assess attitudes toward marriage. This scale consists of 28 items, each of which may be answered on a five-point equal-appearing-interval Likert-type scale. A high score indicates an equalitarian marital-role preference (the wife shares in decision making and has independence if she wishes); a low score, preference for male dominance in the marriage situation.

The subjects for the present phase of this investigation were 226 students at California State College at Los Angeles. Of these, 73 males and 58 females were Caucasian-Americans, and 30 males and 65 females were Americans of Japanese ancestry. Mean ages for the Caucasian and the Japanese males were 18.2 and 20.0 respectively; mean ages for the Caucasian and the Japanese females were 17.8 and 20.3 respectively. All *S*s were 23 years of age or under, somewhat older than *S*s of the previous samples.

The Caucasian-American students were given the scale through their introductory psychology class. The Japanese-American population was selected from college-registration records. Of all the Japanese-American undergraduates registered, 115 were randomly selected and mailed the questionnaire and a biographical-data sheet. One follow-up letter was subsequently sent. This procedure was necessary for two reasons: (*a*) the dispersion of the Japanese-American students throughout the college, and (*b*) the procedure would not draw *S*'s attention to the basis for his selection. A 79 per cent return was secured.

C. Results

The means and standard deviations for the various samples appear in Table 1. Scores are presented in raw-score form.

Comparisons between all groups, except those involving Iwahara's 1964 Japanese samples, were made through two-tailed *t*-tests. Significance levels are shown in Table 2. (Notice that the addition of Iwahara's samples would tend to increase the difference between Japanese women and all other groups and between Japanese men and most other male samples.)

D. Discussion

One of the most striking findings in these studies is the strong equalitarian position taken by college women in Japan; furthermore, their male counterparts, although less equalitarian, are not notably less so than other male samples. The addition of Iwahara's data would not affect these findings—the

TABLE 1
MARRIAGE-ROLE PREFERENCE SCORES OF SELECTED GROUPS IN JAPAN, HAWAII, AND LOS ANGELES

Group	Female			Male		
	N	Mean	*SD*	*N*	Mean	*SD*
Japanese, Japan	97	93.9	8.90	97	81.5	10.04
Caucasian, Hawaii	30	89.6	13.97	30	84.4	12.52
Japanese-American, Los Angeles	65	88.7	10.81	30	82.4	10.83
Caucasian, Los Angeles	58	88.3	8.44	73	79.5	11.76
Japanese-American, Hawaii	49	86.5	8.72	26	77.6	8.61
Japanese (high-prestige university)*	52	97.4	9.71	84	86.6	12.00
Japanese (high-prestige women's university)*	127	95.3	9.57			
Japanese (teachers college)*	85	91.6	8.68	50	81.9	9.57
Japanese (women's college)*	72	83.3	8.82			

* These final samples were drawn from recent data collected by Professor Shinkuro Iwahara of Tokyo University of Education.

only sample to the contrary being a private women's college (which was a two-year junior college until 1962), one of a number "often said to be schools for prospective brides, rather than for academic study" (5).

These results, which are inconsistent with general assumptions regarding Japanese marital-role behavior, must be interpreted with full recognition that responses to Jacobson's questionnaire express preferences rather than expectations; also, one should note that Japanese university women are probably less typical of the general Japanese female population than American university women are of the general American female population. The Japanese girl attending college has a greater degree of emancipation from traditional role expectations than does her American counterpart.

In comparing the two Japanese-American populations, we find that male and female Japanese Americans in Hawaii were least equalitarian for their respective sex groups. In Hawaii, the Japanese-American male prefers the dominant role significantly more than the Caucasian-American male; while in Los Angeles the opposite relationship holds, although it falls short of significance.

Except for several exceptions noted in Iwahara's data, female samples showed greater preference for equalitarian marital roles than males. In the cases of Japanese, Japanese-American (Hawaii), Japanese-American (Los Angeles), and Caucasian-American (Los Angeles) populations, the female

TABLE 2

SIGNIFICANCE LEVEL BETWEEN MEAN SCORES ON MARITAL-ROLE PREFERENCE SCALES OF SELECTED GROUPS IN JAPAN, HAWAII, AND LOS ANGELES

Population	Population								
	1	2	3	4	5	6	7	8	9
1. Japanese-American male, Los Angeles									
2. Japanese-American female, Los Angeles	.01								
3. Caucasian male, Los Angeles		.001							
4. Caucasian female, Los Angeles	.05		.001						
5. Japanese-American male, Hawaii	.05	.001		.001					
6. Japanese-American female, Hawaii			.001		.001				
7. Caucasian male, Hawaii					.05				
8. Caucasian female, Hawaii	.05		.001		.001				
9. Japanese male, Japan		.001		.001		.01		.01	
10. Japanese female, Japan	.001	.001	.001	.001	.001	.001	.001		.001

samples preferred equalitarian roles significantly more than their male counterparts. The customary marital roles allow the college-educated woman much less freedom and less opportunity to utilize her education than is allowed the male. This may be a partial explanation of the female preference for equalitarian roles and would also account for the exception of the women's college, which is considered a "preparation for prospective brides." Other reasons include the superior status of the male role, increased freedom for the male, historical preference for male children, etc.

The third-generation Japanese-American university students in Hawaii appear to maintain attitudes more similar to those attributed to their Japanese ancestors than do the present students in Japanese universities. Berrien (4) compared Japanese Americans in Hawaii, Japanese nationals, and Caucasian Americans on the mainland of the United States, through the use of the Edwards Personal Preference Scale. On some scales (e.g., achievement, dominance, and abasement), the Japanese-Americans are more like Caucasian-Americans than are Japanese nationals; however, on other scales (e.g., deference, nurturance, order, and heterosexuality), the Japanese in Japan are more similar to mainland Caucasians than are students of Japanese ancestry in Hawaii.

One possibility is that Japanese-Americans, relatively isolated from cultural contact with their country of origin, try to maintain the values they believe were (and perhaps are) held in the homeland. Berrien (4) prefers the hypothesis that:

> Japanese culture is shaping its own pattern of norms without respect to what is characteristic elsewhere. . . . Looking at all the EPPS data, it appears that the Japanese values do not now match those characteristic of the United States, nor do they appear to be, in general, moving toward ours.

Elsewhere, Berrien (3) makes the point, with which the authors concur, that rapid change in Japan is more external than basic; and basic values and social structure have changed much more slowly than non-Asians tend to assume. The greater desires for equalitarian marital roles in Japan might be as transient in the lives of Japanese college students as is their political radicalism, which seems to fade as they graduate and receive positions with large industrial and governmental organizations.

Wagatsuma and De Vos (8) believe that the traditional role preferences have been more effectively internalized and eventually will have a greater effect upon behavior than the overtly verbalized preferences. This view

appears to substantiate, although from a slightly different approach, the views expressed previously in this paper.

Studies of war brides in Hawaii exposed a similar theme. The least-happy brides seemed to be the Japanese brides of Japanese-American personnel, while European brides of Japanese-American personnel and Japanese brides of Caucasian personnel appeared to fare better. Interviews indicated the major cause to be that the parents of the Japanese-American soldier expected their future daughter-in-law to conform to the traditional Japanese role, while making no such expectations of any non-Japanese bride. On the other hand, the Japanese bride of Japanese-American servicemen expected to enter the equalitarian marriage she had heard so much about in the United States and bitterly opposed her in-laws' attempts to return her to the traditional Japanese daughter-in-law role of serving the husband's parents. It seems probable that the girl would have found greater sympathy for emancipation from in-laws had she married a Japanese national (7).

Generalizing from the present data, it appears that college students in Japan (especially females) are relatively equalitarian in their marriage-role preferences. Japanese-Americans in Hawaii, by contrast, are relatively male dominant in their marriage attitudes, but this is not true of Japanese-Americans in Los Angeles. To the extent that movement in the direction of equalitarian roles can be considered a sign of acculturation, this process appears to be progressing more rapidly in Los Angeles than in Hawaii.

Generalizations of this type are tenuous at best. We are limited by the fact that our samples consist only of university students of selected institutions. We are further limited by not having data from American collegiate institutions with the prestige level of Iwahara's two high-prestige universities.

E. Summary

The present study is a continuation of earlier investigations concerning marriage-role attitudes of Americans of Japanese and Caucasian ancestry and motherland Japanese.

A total of 226 *Ss* (131 Caucasian-Americans and 95 Japanese-Americans) were tested. All *Ss* were students at the California State College at Los Angeles. Comparisons with previously collected data from Japanese, Japanese-Americans, and Caucasian Americans were made.

To assess attitudes toward marriage a 28-item, five-choice scale, devised by Jacobson to measure male-dominant and equalitarian attitudes toward marriage, was used.

Males generally were found to be more male dominant in marriage-role

attitudes, and Japanese-American males in Hawaii (but not in Los Angeles) seemed notably high in this regard. Females generally have been found more equalitarian in attitude, and females in Japan (especially at high prestige universities and colleges) are strikingly so.

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SOCIAL PSYCHOLOGY OF CHINESE AGGRESSION*

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A. Introduction

Aggression is a complex problem and its causes may be many and varied. A nation initiating aggression against another may be doing so because of a number of competing national interests—economic, political, and cultural, or because of conflicting ideologies. A nation might take to aggression to seek avenues for basic necessities or for obtaining some source to add to the national comforts and luxuries. The words of Socrates are very true in this respect. He wrote long ago:

> . . . I suspect that many will not be satisfied with the simpler way of life. They will be for adding sofas and tables and other furniture. . . . We must go beyond the necessaries of which I was at first speaking, such as houses and clothes and shoes. . . . Then we must enlarge our borders; for the original healthy State is no longer sufficient. And the country which was enough to support the original inhabitants will be too small now, and not enough. . . . Then a slice of our neighbor's land will be wanted by us for pasture and tillage, and they want a slice of ours, if like ourselves, they exceed the limit of necessity, and give themselves up to the unlimited accumulation of wealth (8, p. 636).

According to Socrates, therefore, the economic factor is of great importance. Nationals willing to lead a luxurious life feel the necessity of expanding their borders. This leads to aggression against the neighboring countries. Besides the pecuniary aspect of competitiveness, aggressions are made to obtain prestige and leadership. The Chinese infiltration in 1959 and a massive military action in 1962 seem to have been motivated by economic, prestige, and ideological factors. Since the chief concern in this article is to bring out the social-psychological factors of Chinese aggression, the varied causes of it shall not be explored. Moreover, war is a social institution and has its roots in many of the social structures of the past; enumeration of the psychological factors alone would not explain the Chinese aggression. The question before us today is: Should we consider aggression necessary?

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B. Aggression Is Not Inevitable

It is a common belief that aggression is inevitable. The belief has arisen for three reasons: first, aggression is a "divine" institution; second, it is universal; third, human nature is unchangeable (3, pp. 16-17). Alix Strachey (9) was of the view that fighting was something indigenous to man, something that was implanted in the human mind. William James (2) seems to have thought along the same lines as he said, "We inherit the warlike type." It has also been expressed by a few that man has inherited a nervous system responsive to warlike conditions. For instance, Niebuhr and Eddy write that the seat of evil is the self and the quality of evil can be defined in terms of pride.[1] Freud thought that there was an unconscious force within the individual for whose outlet individuals resort to war. Freud's postulation of the Thanatos, the death instinct, as against Eros, the impulse of love and life, has been expressed in these words:

> An important derivative of the death instinct is the aggressive drive. Aggressiveness is self destruction turned outward against substitute objects. A person fights with other people and is destructive because his death wish is blocked by the forces of the life instincts and by other obstacles in his personality which counteract the death instincts (1, p. 40).

These assertions have hardly any support of sound evidence. The idea of unchangeability of human nature is obsolete as it is based on the old instinct theory. Fighting today is believed to be learned rather than instinctive. The findings of anthropologists would bear testimony to this. Ashoka, as early as 260 B.C., having conquered the Kalingas, expressed profound remorse and sorrow over his success because his victory had meant the slaughtering of numberless persons. Ashoka decried his faith in this method. This does not mean that India has completely followed the edicts of Ashoka. But there has been a strong belief in the Indian people that peaceful adjustment is always desirable.

Fighting, nevertheless, is not a primary drive like hunger, thirst or sex. The analysis of the behavior of children or human groups would dissuade us from postulating an instinct of aggressiveness. As expressed earlier, aggression or warfare is a complicated social institution based on certain drives and training. Every country trains its children to love the country and national heroes. We learn to speak highly of our own cultural ideals, values, and policies; and we are taught to look down upon the ideals, values, and policies of other cultures. In India, after the declaration of emergency, we find that such

[1] "It is the human effort to make our partial values absolute which is always the final human life; and it always results in the most bloody of human conflicts" (7, p. 16).

organizations as A.C.C. and N.C.C. are being formed to an extraordinary degree. Such organizations help build up nationalistic tendencies and favorable attitudes towards war.

Social and political conditions are also the strong determinants of aggression. In India, children born in feudal societies were instilled with the idea that honor of the family, group, and state was supreme and that killing or being killed should be preferred to loss of honor. The martial races like Rajputs and Sikhs are well known for courage and valor. A man surrendering to force and exigencies of others was considered a coward. But the preaching of Buddha and Gandhi's practice of nonviolent resistance caused a change in the social norm. It was because of this change that India resorted to nonviolent techniques in ousting the British. But once again, because of Chinese incursion and the recent infiltration of Pakistani forces into the Indian frontiers, the country's honor and prestige are at stake and the nation has stood as one man to defend its honor. Every endeavor is being made by the political leaders to reach the highest pitch of efficiency. Compulsory military training is being imparted to all students going to universities and colleges. So there is again a change in the social norm. A people having faith in ahimsa have been compelled to take to arms. This is in no way contrary to Indian tradition and culture. Mahatma Gandhi, defining the relations of national autonomy and international order, warned: "My idea of nationalism is that my country may become free, that if need be the whole of the country may die, so that she may live." To make up for the military lag and to instill faith in the changing social norm, propaganda technique has to be used.

C. Using Propaganda

Propaganda machinery is generally geared to influence the attitudes and opinions of others (5). According to Lineberger:

> Propaganda consists of the planned use of any form of public or mass-produced communication designed to effect the minds and emotions of a given truth for a specific purpose, whether military, economic or political (6, p. 39).

Under war or emergency situations all information is meted out with the strictest censorship so that the nation and outside people receive only what the national leaders desire to give them. The mass media—*viz.*, the radio and press, as well as public meetings, free discussions, and action of citizens —go through tight censorship. These media of communication are used to bolster up the morale, output, and courage of the countrymen on the one

hand and to demoralize, decrease the output, and discourage the aggressive nation on the other. As Kimball Young (10, p. 524) put it:

> The chief aims of war time propaganda are 1) to mobilize and direct aggression and hatred against the enemy and to undermine and destroy his morale; 2) to build up and preserve the fighting spirit of one's own country; 3) to develop and preserve the friendship of one's allies; 4) to foster the friendship of neutrals and, if possible, enlist their active support and cooperation in the war.

Since the aggression, China is spending large sums of money to justify its action to keep up the morale of its people and to break down the morale of the Indian people and their fighting soldiers. To make its propaganda effective, China has not even spared Indian war prisoners. Pakistan is also spending vast sums of money on propaganda. The menace of China and Pakistan has assumed the form of a disturbing specter which is affecting adversely the huge development plans, as India not only has to undo the evil effects of propaganda by both nations but also to make its defenses strong.

It must be remembered that no propaganda can be effective unless it meets the needs of the common people, who are willing to accept it for the very reason that it does fall in line with their needs. We well remember the British days when, in spite of tight censorship by the government, all nationalists throughout India acted in one manner. Even when the leaders were sent behind prison bars, the Indian solidarity was not disrupted. The reason behind this unity was that the entire citizenry, whether residents of the villages or of the cities, felt a strong need for swaraj. They had a strong will that the British must quit India.

Today, in the face of Chinese aggression, India once again stands united as the entire nation feels that swaraj has to be defended with all might. Our defense needs should, therefore, be given wide publicity throughout the country. As expressed by Mr. Chavan, India's Defense Minister, there is a need to make defense efforts in four directions:

> First we have to have the expansion of the army. Secondly, there has to be the necessary expansion and modernization of the air force. Thirdly, there will have to be a strong basis of production, taking into consideration the new capacity of consumption that we are creating in the defense sector. Fourthly, the ancillary facilities like communications and transport have to be expanded.[2]

To meet the double threat of China and Pakistan, India has to depend on her own resources and, with this end in view, the defense budget has to be

[2] Y. B. Chavan. In *Pioneer* (Lucknow daily newspaper), April 10, 1963, page 4.

geared up considerably. In addition to this, India needs support morally and materially from the West or from Moscow and the East European countries.

D. Building Morale

The problem of morale also exists in such aggressions. In modern warfare morale has to be maintained not only among soldiers but among those working in the fields, factories, offices, and universities. Propaganda activities have to be carried out on three fronts: (*a*) mobilizing hatred against the enemy among the civilian population at home, (*b*) preserving the friendship of citizens of neutral nations and of allies, and (*c*) demoralizing both the civilian populations and the armed forces of enemy countries.

India is a democratic and not a totalitarian country. It believes in the principles of peaceful coexistence, universal brotherhood, and love. In spite of its faith in these principles, if any country wages war against it, the paramount duty of the nation at large is to defend itself. We do not seek to breed hatred against any nation or the national leaders of that nation. But in such circumstances as the Chinese aggression or Pakistan's warlike designs we are left with no option but to mobilize hatred against such political-expansionist ideologies and against those leaders who prosecute them. We have to stress the need of keeping up the national solidarity and existence on the one hand and to spread hatred against the individual leaders and their ideologies on the other because individual and ideological hatreds are easy to spread.

The second front on which propaganda activities have to be directed is the winning of friendship with as many nations as possible. India's neutrality and nonalignment with any of the power blocs as well as its outspokenness with regard to the unjust policies of both major blocs have won it a singular prestige among the nations of the world. We have received material as well as moral cooperation against Chinese aggression from as many as 70 countries. This is really significant and creditable and has raised the morale of the Indian people.

On the third front, propaganda has to be so directed as to demoralize the civilian population and the armed forces of the enemy country. This is sometimes done by pressing into operation airplanes for dropping leaflets in the enemy country. A barrage of foreign language broadcasts might also help in effecting it.

E. Psychological Conditioning

It might also be helpful to use the technique of conditioned response by way of using disagreeable words for the Chinese. For instance we may say that

Chinese are "expansionists," "brutal," and "killers." This technique can be best employed if one has a thorough grounding in the culture of the enemy country.

A word may be said about counteraffecting the enemy propaganda. The propaganda technique of the enemy country should be exposed. To achieve it, new beliefs and attitudes should be induced. This will help in creating confusion and doubt about the veracity of the statements made by the propagating nation. In such a situation there is a chance for national decision. To counteraffect the malpropaganda by China or Pakistan, the information services must be geared to reach the people, and people should be encouraged to form associations where they can meet weekly or fortnightly to have discussions about current problems. This would keep all well informed and make propaganda ineffective.

F. Strengthening the Defensive Attitude

The heavy burden of developing a defense attitude falls on the shoulders of the top leaders of the country. They should try to inculcate the solemn feeling of a religious war among all concerned; the leaders should try to emphasize that the aggressive country is unjust, unreasonable, and has engaged itself in an ignoble fight. India has always valued truth and nonviolence, but in a war situation the first casualties are truth and nonviolence. The need of the hour is to instill confidence in military men as well as civilians about our strength and the justness of our cause. A dual faith—faith in the cause and faith in the defense steps—would prepare the country militarily and morally.

To strengthen the defense attitude, we should derive inspiration from our rich traditions. We need training and indoctrination to cut through the aggression, come what may. We should constantly remind our fighting forces of the famous Rajput story according to which the wife refused to recognize her husband when she learnt that he had run away from the battlefield. The military people have to learn to put up with certain deprivations of life. Regarding Chinese aggression, we should always remember the teachings of Bhagwad Gita:

> When a man is full of aggressive tendencies he becomes deluded, and loses sense of reality. When a man is deluded he forgets himself, he is unable to recall who he is and what he is doing; he is no longer his normal self. When he loses his memory, he loses the ideals for which he stands, social norms that he has internalized, all sense of what is right and what is wrong; his action will have no touch with reality, it will be completely Id-directed. The ruin of reason and discrimination spells

> utter destruction. None can save a person who has thus lost control over himself (4).

This is how we can view China and her future.

G. Conclusion

A word of caution may be raised lest we become complacent. We have to develop the resources of the country to such a high level that it becomes invulnerable. Our military strength should be raised to a degree where the aggressors will feel deterred. So, we as a nation have a double task to perform. First, we have to maintain our own democratic way of life and should not allow any country to disrupt it and, second, we should increase our military strength so that we are neither intimidated nor blackmailed by aggressor governments.

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SEX DIFFERENCES IN THE INCIDENCE OF RESPONSES TO THE DIADIC SILHOUETTE TEST* [1]

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A. INTRODUCTION

In a recent issue of this journal the authors published an article indicating sex differences among chronic schizophrenics in the interpretation of human diadic profiles. In the present instance we report similar data for two groups of normal subjects: male and female. These data from our normal subjects are not entirely comparable with those obtained from our schizophrenic subjects because the instructions in that instance were slightly modified. Still, there is strong presumptive reason for comparing the data obtained from normals and schizophrenics, a comparison that illuminates in particular the differential performance of male normals and schizophrenics.

The test and its method of administration have been reviewed in previous articles (1, 2, 3) and do not require extensive description. Briefly, the Diadic Silhouette Test is a device whereby a male and a female figure in profile confrontation are presented as silhouettes in a variety of orientations with respect to elevation and rotation of the two figures. The subject is required to indicate the character of the exchange or transaction that is occurring between the two parties. It is presumed that male subjects identify with the male figure and females with the female figure, although this is not absolutely demonstrated. Still, as we hope to demonstrate in this article, the two sexes are generally disposed to interpret differentially the relationship between the figures.

B. METHOD AND PROCEDURE

The subjects were 38 female school teachers and 37 male school teachers ranging in age from 24 to 40. They were shown a total of 54 diadic silhouettes in which the figures consisted of an adult male and an adult female of approximately their own age. As described in previous articles, three elevation positions were employed and three rotations for each figure, making a total of 27 variants. Each of the 27 variants was presented in two forms: first, with

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a reddish background; second, with a bluish-green background. Differences in responses associated with the quality of the background proved to be trifling; so, for our present purposes, the two series simply represent replications.

As described earlier, a "menu" or list of possible interpretations was provided for each subject. This menu is given in Figure 1. It will be seen that

He or She	Tells Asks Demands Offers	with	Affirmative or Negative Response

FIGURE 1
"MENU" ITEMS

the subject is asked to identify the initiator, to specify which of four acts are involved, and to state whether the response by the other figure is affirmative or negative in character. Such a scheme yields 16 possible combinations. Our subjects were free to apply any of these possible descriptions to an interpretation of each silhouette. Examination of the data reveals that particular silhouettes are interpreted differently by the two sexes. In the present instance, however, we shall confine ourselves to an examination of differences between the two sexes in their employment of the 16 "menu" items.

C. RESULTS

Table 1 shows the number of responses in each of our 16 categories provided by male and female subjects, the proportion to be assigned to male subjects, and the *t* value for the difference between the male and female

TABLE 1
PROPORTION OF TOTAL RESPONSES FROM MALE SUBJECTS AND SIGNIFICANCE OF THIS PROPORTION

Transaction	Sum	Proportion from male *Ss*	*t*	*p*
he—tells—affirmative response	572	.534	2.05	$<.05$
he—tells—negative response	176	.585	2.46	$<.02$
he—asks—affirmative response	322	.453	1.42	ns
he—asks—negative response	204	.421	1.91	$<.10$
he—demands—affirmative response	247	.526	1.03	ns
he—demands—negative response	258	.414	2.55	$<.02$
he—offers—affirmative response	242	.401	2.87	$<.01$
she—tells—affirmative response	531	.482	0.50	ns
she—tells—negative response	183	.508	0.42	ns
she—asks—affirmative response	273	.542	1.63	ns
she—asks—negative response	263	.563	2.36	$<.02$
she—demands—affirmative response	188	.526	1.18	ns
she—demands—negative response	204	.466	0.84	ns

propositions. It will be observed that male subjects yield low proportions for the transactions "He offers and is accepted," "He demands and is refused," and "He asks and is refused," at the .01, .02, and .10 levels of confidence. On the other hand, male subjects tend to overemploy propositions involving "He tells" whether the response is positive or negative at the .05 and .02 levels of confidence. They employ a significantly high proportion, in comparison with women, of the proposition "She asks and is refused."

A more exhaustive analysis of the data, however, is to be obtained by combining these categories, which we shall presently undertake. In the ensuing analysis we shall use chi square because in some instances we are going to be examining in effect several propositions simultaneously.

The general disposition of male and female subjects to perceive the male or female figure as the initiator shows no significant difference nor does their general propensity to view the response as positive or negative. On the other hand, Table 2 shows that the two sexes differ in their employment of the

TABLE 2
INCIDENCE OF EMPLOYMENT OF FOUR ACTS BY MALE AND FEMALE SUBJECTS*

Sex	Tell	Ask	Demand	Offer
Men	758	528	431	281
Women	704	534	466	348

* $\chi^2 = 8.13$, $p < .05$.

four acts, in excess of the .05 level of confidence. Thus, we may say that male subjects tend to use the act of "telling" conspicuously more frequently and "offering" less frequently than do female subjects.

A further examination of this result shows, as seen in Table 3, that the principal difference in the employment of acts is to be found in those instances when the male is the initiator. Here the tendencies that we have noted are particularly magnified. When the female is the initiator the differences of the employment of the four acts by our two groups of subjects do not attain even the .05 level of confidence.

Sex differences relating the use of the acts to the sex of the initiator may be seen in yet another light. In Table 4 we present a tabulation showing the differences between our two groups of subjects in the initiator assigned to each of our four acts. It will be observed that each sex is disposed to see the figure of his own sex "telling" more often and "asking" less often. It is further of interest to note that women are more disposed than men to see the male as "offering."

As we have observed, there is no general tendency for the two sexes to see

TABLE 3
INCIDENCE OF EMPLOYMENT OF FOUR ACTS WITH BOTH INITIATORS BY MALE* AND FEMALE** SUBJECTS

Initiator	He tells	He asks	He demands	He offers	She tells	She asks	She demands	She offers
Men	409	232	237	146	349	296	194	135
Women	339	294	268	210	365	240	198	138

* $\chi^2 = 23.0$, $p < .001$.
** $\chi^2 = 6.21$, $p < .10$.

TABLE 4
INCIDENCE OF EMPLOYMENT OF MALE AND FEMALE INITIATOR FOR EACH OF THE FOUR ACTS BY MALE AND FEMALE SUBJECTS*

Sex	Telling Initiator		Asking Initiator		Demanding Initiator		Offering Initiator	
	Male	Female	Male	Female	Male	Female	Male	Female
Men	409	349	232	296	237	194	146	135
Women	339	365	294	240	268	193	210	138

* Chi squares are as follows: 4.92 for telling, 6.55 for asking, and 4.41 for offering; that for demanding was nonsignificant.

a greater incidence of positive or negative responses. Neither is there a differential tendency for negative responses to be associated with the male or female initiator. On the other hand, as Table 5 shows, there is a highly significant

TABLE 5
INCIDENCE OF EMPLOYMENT OF FOUR ACTS WITH BOTH POSITIVE AND NEGATIVE RESPONSES FOR MALE AND FEMALE SUBJECTS

Response and sex	Act			
	Telling	Asking	Demanding	Offering
Affirmative response*				
Men	562	229	225	190
Women	542	301	206	229
Negative response**				
Men	196	234	202	91
Women	163	233	260	119

* $\chi^2 = 12.19$, $p < .01$.
** $\chi^2 = 12.17$, $p < .01$.

relationship between the employment of the four acts for each of the two responses. Thus, when positive responses are involved, males are disposed to employ the acts of "telling" and "demanding" more frequently. When negative responses are involved, men are notable for the low incidence of employment of "demand."

In the foregoing it is suggested that the employment of "demand" with the two responses discriminates rather sharply between men and women. Table 6 shows the incidence of male and female employment of "demand" transactions with positive and negative responses. The results stand well beyond the .01 level of confidence and demonstrate the disposition of men to see demands met with compliance, while the female subjects show a contrary disposition.

D. Discussion

In the foregoing we have been able to demonstrate statistically a number of ways in which the two sexes employ our "menu" of transactions differ-

TABLE 6
INCIDENCE OF POSITIVE AND NEGATIVE RESPONSES TO "DEMAND" TRANSACTIONS FOR MALE AND FEMALE SUBJECTS*

Sex	Demand	
	Affirmative	Negative
Men	229	202
Women	206	260

* $\chi^2 = 11.30$.

entially in assigning them to a common body of diadic silhouettes. Males apparently prefer the more impersonal transaction of "telling"; while women see the more affectively laden acts of "asking," "demanding," and "offering," especially the last. This finding is consonant with the proposition that in our culture men are given to less-affective exchange in their human relations than are women, at the same time that the quality of "offering" may be associated with attitudes of feminine dependency. For reasons that we cannot presently surmise this propensity toward the differential use of the four acts by our two groups of subjects is especially manifest when the male is seen as the initiator.

A second observation is contained in the general finding that men see the male figure predominantly as "telling" and not "asking"; while female subjects see the female figure in the same manner. Each sex is disposed to see the opposite sex as the petitioner, while maintaining the rationally superior and poised position of the teller. One can suspect a kind of sexual chauvinism is operating. It perhaps is noteworthy, too, that women (as compared with men) not only employ "offering" more frequently; but they see it predominantly associated with a male initiator, a probable reflection of the active and passive tradition of the two sexes within our culture.

Our findings with respect to the differential employment of the response pattern appear most saliently in connection with response to demands. Here we find that male subjects are more inclined to see compliance; female subjects, more disposed to envision defiance. This may again be a reflection of the societal roles assigned to the two sexes—of the fact that in business, the military, and other relations men are subjected to a rigor of discipline and a necessity for obedience which is not paralleled within the experience of most women.

A final note should be made concerning the results reported here and others contained in our previous article on male and female schizophrenic reactions. In that article we observed that the schizophrenic male was distinguished by the high incidence with which he saw the female as the initiator, and requests and commands met with negative responses. The pattern obtaining for our

normal males is radically different. Thus, the normal male sees the male as the most frequent initiator, "telling" as the most frequent act, and the response as affirmative. In fact, the data show a sharp contrast between normal and schizophrenic males in their employment of our transactions; while the normal and schizophrenic women do not differ so conspicuously.

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SMOKING ATTITUDE, BEHAVIOR, AND BELIEFS OF COLLEGE MALES*

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A. Introduction

Many reports concerning the possible harmful physical effects of smoking have been published in recent years (2, 8); however, the psychological aspects of smoking behavior are still a relatively unexplored area (5, 8). The extent of smoking behavior represents a major problem. Present estimates (8) are that over 70 million Americans smoke approximately 550 billion cigarettes a year (4000 per adult); each day over 100 citizens die from lung cancer; over 500 die from other diseases closely linked with smoking; and one million children now in school will die of lung cancer before they reach the age of 70.

Because the college campus has been an important social environment where smoking behavior is encouraged for nonsmokers and reinforced in present smokers, some knowledge of the smoking behavior and beliefs of college students could be of value. The purpose of the present study was to observe the differences or relationships among the reported smoking beliefs, smoking behavior, and smoking attitude of male college-student present smokers, former smokers, and nonsmokers.

B. Method and Procedures

1. *Subjects*

The *S*s were 405 white, Catholic, American-born, male college students ranging from 17 to 23 years in age. In this group, 249 *S*s or 61.5 per cent of the *S*s were classified as present smokers (*i.e.*, those who have smoked at least one cigarette, cigar, or a pipe full of tobacco during the month previous to the testing session), 32 *S*s or 7.9 per cent were classified as former smokers (*i.e.*, those who at some time have smoked, but not for at least one month prior to the testing session), and 124 *S*s or 30.6 per cent were classified as those who never have smoked (*i.e.*, those who have never smoked except for a possible rare trial experience). The three smoking groups were similar on educational level and selected major in college.

* Received in the Editorial Office, Provincetown, Massachusetts, on June 1, 1964.
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2. *Test Material*

The test material consisted of two measures: a Smoking-Attitude Scale and a Smoking-Behavior and Belief Questionnaire. The Smoking-Attitude Scale was constructed according to the procedures outlined by Thurstone (9).

TABLE 1
SMOKING ATTITUDE SCALE

Weight		Statement
		Form A
3.5	1.	Smoking gives one poise
10.2	2.	Smoking is a disgusting habit
3.4	3.	Smoking soothes ones nerves
7.7	4.	Smoking gives little enjoyment
6.9	5.	People smoke because of others
4.4	6.	Smoking allows a sense of security
1.2	7.	Smoking is one of the most pleasurable experiences in life
10.4	8.	Smoking is a filthy habit
2.9	9.	Smoking provides a sense of well-being
1.9	10.	Smoking is one of life's basic pleasures
4.7	11.	Smoking is occasionally pleasurable
3.8	12.	Smoking helps a person relax
10.8	13.	No one should be allowed to smoke
1.7	14.	Smoking is an aesthetic experience
8.9	15.	Smoking dulls your mind
5.9	16.	Smoking is a harmless activity
8.4	17.	One who smokes is insecure
6.0	18.	Smoking is relatively harmless
10.8	19.	Smoking is one of the greatest evils in the world
3.1	20.	Smoking is a pleasant means of relaxation
8.0	21.	Smoking makes one nervous
8.7	22.	Smoking is a waste of time
		Form B
3.3	1.	Smoking is a pleasant diversion
7.8	2.	Smoking is a purposeless activity
9.9	3.	Smoking is a dirty habit
1.5	4.	Smoking is one of man's greatest innovations
8.7	5.	Smoking is not worth the money it costs
10.9	6.	Smoking is one of the worst vices man ever invented
1.8	7.	Smoking is one of the most relaxing things a person can do
5.2	8.	Everyone should try smoking once in his life
3.4	9.	Smoking allows one self-expression
7.9	10.	Smoking should be avoided
9.9	11.	Smoking is a vulgar habit
8.9	12.	Smoking degrades one's appearance
5.9	13.	Smoking is a harmless habit
10.9	14.	Smoking is a revolting vice
3.1	15.	Smoking helps you cope with problems
4.1	16.	Smoking helps one to be accepted
8.9	17.	People who smoke show lack of self-control
2.0	18.	There is nothing like a good smoke
6.9	19.	Smoking is merely a conformity
3.6	20.	Smoking is a pleasant pastime
1.7	21.	Smoking is an extremely pleasurable activity
4.1	22.	Smoking relieves boredom

Thirty-six male college students rated 110 edited statements on an 11-point scale. From the ratings, two 22-item parallel forms were developed. Table 1 presents the statements in each form, along with the median scale weights. The lower scale weights represent the more-favorable smoking attitudes.

A separate Smoking-Behavior and Belief Scale was developed for each of the three groups. For present smokers, the questionnaire consisted of 32 items; for former smokers, 30 items; and for nonsmokers, 11 items. The question content was related to smoking behavior, smoking beliefs, and biographical information. Each question required a "yes" or "no" response, and only nine questions were the same in all three questionnaires.

3. *Procedure*

*S*s were secured from many campus sources by 20 trained male college-student examiners. Following printed directions, each *E* (*a*) administered both forms of the Smoking-Attitude Scale, (*b*) classified *S* as to his smoking behavior, and (*c*) asked *S* to complete the appropriate Smoking-Behavior and Belief Scale.

C. Results

The median statement weight for each form of the Smoking-Attitude Scale for each *S* was computed and used to represent each *S*'s smoking-attitude score. A descriptive statistical analysis of these data for the three smoking groups for each form and for the two forms combined are summarized in Table 2. It may be seen that the means, *SD*s, and ranges of the scores on Form A and Form B are comparable. The low measures of skewness g_1 and degrees of kurtosis g_2 for the former-smoker group and the nonsmoker group indicate that the distributions are normal in shape. However, the high positive values of g_1 and g_2 for the present-smoker group for Form A, Form B, and the combined result implies a positively skewed, leptokurtic distribution.

The reliability coefficients for the combined scores were obtained by correlating scores on Form A with those on Form B and by correcting for test length by the Spearman-Brown prophecy formula. The magnitudes of the coefficients reported in Table 2 are consistent with those of other scales reported in the literature (1).

The *t* tests of the difference between the mean smoking-attitude scores for each of the three groups with each of the other groups were determined, and all differences were found to be significant (see Table 3). Former smokers were found to have a less-favorable smoking attitude than present smokers, but a more-favorable smoking attitude than nonsmokers.

Within each group, *t* tests were made of the differences between the mean smoking-attitude scores of those who responded "yes" and those who responded "no" to each of these questions in the Smoking-Behavior and Belief Questionnaire. Table 4 summarizes the significant *t*'s for the present-smoker group. Present smokers who smoked cigarettes only, would like to have stopped smok-

TABLE 3
t TESTS OF DIFFERENCES BETWEEN MEANS OF PS, FS, AND NS GROUPS ON SAS SCORES (FORM A AND B COMBINED)

Groups	*df*	*t*
PS and NS	371	11.08**
PS and FS	279	3.89**
NS and FS	154	2.41*

* $p < .05$.
** $p < .001$ (two-tailed tests).
Note: PS = present-smoker, FS = former-smoker, NS = nonsmoker, SAS = Smoking-Attitude Scale.

TABLE 4
t TESTS OF THE DIFFERENCES BETWEEN THE MEAN SAS SCORES WITHIN THE PS GROUP IN THEIR "YES" AND "NO" RESPONSES TO THE SBBQ QUESTIONS

Question	Response	*df*	Mean	*SD*	*t*
Smoke cigarettes only?	yes	137	8.96	2.28	1.96*
	no	110	8.36	2.31	
Ever try to stop smoking?	yes	159	8.01	2.60	2.47**
	no	88	8.97	1.56	
Would you like to stop smoking?	yes	84	9.84	3.01	6.00**
	no	163	8.11	1.56	
Do you believe you smoke too much?	yes	119	9.00	2.58	1.99*
	no	128	8.42	1.98	
Do you believe in a relationship between smoking and lung cancer?	yes	166	8.89	2.41	1.96*
	no	81	8.32	2.03	
Do you believe in a reduction in life expectancy due to smoking?	yes	112	9.17	2.75	2.92**
	no	137	8.32	1.79	
Does smoking help you concentrate?	yes	69	8.17	1.73	2.31*
	no	178	8.91	2.47	
Does smoking help reduce your tension?	yes	209	8.44	2.01	4.31**
	no	38	10.11	3.14	
Do you like the taste of smoking?	yes	192	8.27	1.83	5.18**
	no	55	10.18	3.07	
Do you receive any pleasure out of smoking?	yes	240	8.56	2.12	5.70**
	no	7	13.01	3.59	
Does smoking help you express yourself?	yes	33	7.78	9.25	2.55**
	no	214	8.85	5.87	

* $p < .05$.
** $p < .01$ (two-tailed test).
Note: SAS = Smoking-Attitude Scale, PS = present-smoker, SBBQ = Smoking-Behavior and Belief Questionnaire.

ing, believed they smoke too much, believed in a relationship between smoking and lung cancer, believed in a reduction in life expectancy from smoking, and had a significantly more-unfavorable smoking attitude ($p < .05$) than present smokers who responded "no" to these questions. However, present smokers who had tried to stop smoking asserted that smoking helped them concentrate and reduce tension, that they liked the taste of smoking and received pleasure

TABLE 5
t TESTS OF THE DIFFERENCE BETWEEN THE MEAN SAS SCORES WITHIN THE FS AND NS GROUPS IN THEIR "YES" AND "NO" RESPONSES TO THE SBBQ QUESTIONS

Question	Response	*df*	Mean	*SD*	*t*
FS group					
Did you get any pleasure out of smoking?	yes	26	9.85	2.16	3.19**
	no	4	13.86	3.20	
Did you smoke before beginning high school?	yes	6	12.60	2.87	2.22*
	no	24	9.96	2.46	
NS group					
Are you sometimes tempted to smoke?	yes	43	11.22	2.81	1.99*
	no	79	12.80	3.16	
Do you believe there is a relationship between smoking and reduction in life expectancy?	yes	71	12.87	3.16	1.96*
	no	51	11.26	2.81	
Would you mind your own children becoming smokers?	yes	10	9.72	3.41	2.46**
	no	112	12.06	2.97	

* $p < .05$.
** $p < .01$ (two-tailed tests).
Note: SAS = Smoking-Attitude Scale, FS = former-smoker, NS = nonsmoker, SBBQ = Smoking-Behavior and Belief Questionnaire.

from smoking, they asserted that smoking helped them to express themselves; they also reported a significantly more-favorable smoking attitude ($p < .05$) than those present smokers who responded "no" to these questions.

Table 5 presents the significant *t*'s based on the mean smoking-attitude differences within the former-smoker group and nonsmoker group. Former smokers who received pleasure from smoking had a significantly more-favorable smoking attitude than former smokers who responded "no" to this question. But former smokers who began smoking before beginning high school reported a significantly less-favorable smoking attitude ($p < .01$) than former smokers who started smoking after entering high school. Nonsmokers who reported an occcasional temptation to smoke would not mind their own future children be-

coming smokers and had a more-favorable smoking attitude than nonsmokers who responded "no" to these questions. Nonsmokers who did not believe in a relationship between smoking and reduction in life expectancy held a more-favorable smoking attitude than nonsmokers who responded "yes" to this question.

Table 6 presents the items of the Smoking-Behavior and Belief Questionnaire, the per cent of "yes" responses found with each of the three groups,

TABLE 6
PER CENT OF "YES" RESPONSES TO SBBQ QUESTIONS FOR PS, FS, AND NS GROUPS, AND CHI SQUARES BASED ON TESTS OF INDEPENDENCE OF RESPONSES

Question	Group PS	FS	NS	Chi square
Do you believe there is a relationship between smoking and lung cancer?	67.2	100.0	74.2	10.40**
Do you believe that life expectancy is reduced due to smoking?	45.0	62.5	58.1	7.71*
Does the smoke from smoking bother you?	16.5	46.9	53.1	57.8**
Would you want your own children to smoke?	17.2	6.3	8.9	6.57*

* $p < .05$.
** $p < .01$.
Note: SBBQ = Smoking-Behavior and Belief Questionnaire, PS = present-smoker, FS = former-smoker, NS = nonsmoker.

and the associated chi squares. Fewer of the present smokers than of the other groups believed in a relationship between smoking and lung cancer and in smoking and a reduction in life expectancy; fewer, also, were bothered by the smoke from smoking, and more were willing to have their own future children smoke.

For each of the three groups, two-by-two contingency tables permitted comparison of the responses of the *S*s to each item with those to each of the other items in the Smoking-Behavior and Belief Questionnaire. Table 7 summarizes the per cent of "yes" responses and the significant chi squares for the present-smoker group. Fifty-five per cent of the present smokers who smoke "cigarettes only" responded "yes" to the question, "Do you believe you smoke too much?" while only 39.8 per cent of the present smokers who smoke "pipe, cigar, or cigarettes" responded "yes" to the same question. The significant chi square indicates that the per cent for the cigarette-only smokers is different from the per cent for pipe-cigar-cigarette smoker.

TABLE 7

PER CENT WITHIN PS GROUP RESPONDING "YES" TO SBBQ QUESTIONS AND CHI SQUARES BASED ON TEST OF INDEPENDENCE OF RESPONSES

Question	% Yes	% Yes	Chi square
	Smoke cigarettes only	*Smoke pipe, cigar, or cigarettes*	
Do you believe you smoke too much?	55.0	39.8	5.87*
Do you smoke more alone than with others?	21.7	39.6	9.44**
Do you believe you could stop smoking?	73.1	85.5	5.64*
Do you inhale?	99.0	84.8	19.53**
Did you smoke before entering college?	84.8	75.0	3.90*
	Heavy smoker	*Light or moderate smoker*	
Does your mother smoke?	60.2	43.4	6.80**
Do you believe you could stop smoking?	67.0	94.0	26.89**
Do you try to limit your smoking?	39.3	57.5	8.26**
Do you inhale?	98.5	84.0	17.03**
Do you smoke more at leisure than at other times?	65.0	80.0	6.85**
Would you mind your children smoking?	89.5	68.0	16.80**
Do you participate frequently in athletics?	44.0	66.0	11.82**
Do you smoke more alone than with others?	21.7	39.6	9.44**
Do you believe you smoke too much?	70.0	18.0	63.57**
	Like to stop smoking	*Not like to stop smoking*	
Do you believe you smoke too much?	73.1	35.5	44.68**
Do you smoke more alone than with others?	17.7	22.6	4.86*
Do you believe in a relationship between smoking and lung cancer?	82.5	59.1	13.65**
Do you believe smoking reduces life expectancy?	64.7	34.8	20.29**
Does smoking help reduce your tension?	74.1	86.5	3.90*

TABLE 7 (*continued*)

Question	% Yes	% Yes	Chi square
	Like to stop smoking	*Not like to stop smoking*	
Do you like the taste of smoking?	69.5	81.5	4.86*
Do you get any pleasure from smoking?	92.8	98.5	6.14*
Do you try to limit your smoking?	57.7	41.5	5.89*
Do you inhale?	100.0	89.0	10.06**
Would you mind your children smoking?	5.9	23.2	11.71**
Does smoking make you cough frequently?	25.8	12.2	7.48**
Does smoking help you express yourself?	5.3	18.3	8.76**
	Believe smoke too much	*Don't believe smoke too much*	
Do you smoke more alone than with others?	12.0	26.55	4.02
Do you believe you could stop smoking?	70.8	86.4	8.59*
Have you increased your smoking in the last year?	60.0	28.7	24.77**
Have you decreased your smoking in the last year?	6.6	16.7	5.58*
Do you get any pleasure from smoking?	94.0	100.0	5.11*
Do you inhale?	100.0	87.0	14.13**
Did you smoke before beginning college?	91.0	70.5	16.19**
Does smoking make you cough frequently?	25.0	9.0	10.92**
Does your mother smoke?	56.8	38.8	8.37**
	Believe smoking and lung cancer related	*Don't believe smoking and lung cancer related*	
Do you believe smoking reduces life expectancy?	62.3	9.8	73.65**
Does smoking help reduce your tension?	88.0	77.0	5.22*
Does smoke from smoking bother you?	20.3	8.5	5.59*
Would you mind your children smoking?	10.8	30.5	15.77**

TABLE 7 (*continued*)

Question	% Yes	% Yes	Chi square
	Could stop smoking if desired	*Could not stop smoking if desired*	
Have you increased your smoking in the last year?	39.4	60.4	7.54**
Do you try to limit the amount you smoke?	52.0	28.3	9.44**
Do you inhale?	91.0	100.0	5.25*
Do you smoke more at leisure than other times?	74.5	60.4	9.87**
Did you smoke before beginning college?	76.5	94.5	8.37*
	Try to limit amount of smoking	*Not try to limit amount of smoking*	
Did you ever try to stop smoking?	53.6	34.8	8.21**
Have you decreased your smoking in the last year?	72.5	43.6	8.52**
Do you inhale?	78.0	43.6	4.29*
Did you smoke before beginning high school?	12.0	22.0	4.34*
	Smoke more at leisure	*Not smoke more at leisure*	
Did you smoke before beginning college?	77.0	21.0	64.22**
Does smoking make you cough frequently?	13.5	25.4	5.10*
Would you mind your own children smoking?	19.0	10.2	7.29**
	Smoke before began college	*Not smoke before began college*	
Have you ever tried to stop smoking?	85.6	70.8	7.96**
Do you inhale?	83.4	44.5	15.80**
Would you mind your own children smoking?	19.0	11.4	4.99*
	Like the taste from smoking	*Don't like the taste from smoking*	
Do you smoke more alone than with others?	88.5	74.5	4.52*
Do you believe there is a reduction in life expectancy from smoking?	71.5	82.3	4.32*

TABLE 7 (*continued*)

Question	% Yes	% Yes	Chi square
	Like the taste from smoking	*Don't like the taste from smoking*	
Have you increased your amount of smoking in the last year?	48.2	28.6	6.79**
Do you get any pleasure from smoking?	99.0	94.5	13.07**
	Would mind own children smoking	*Would not mind own children smoking*	
Do you believe there is a reduction in life expectancy from smoking?	7.1	25.5	14.61**
Did you begin smoking before high school?	28.0	15.0	11.79**
Do you smoke more alone than with others?	26.9	15.0	4.29*
	Smoking helps reduce tension	*Smoking not help reduce tension*	
Does smoking help you concentrate?	92.5	81.3	5.34*
Do you get any pleasure from smoking?	98.5	87.5	13.73**
Does smoking help you express yourself?	15.7	2.6	4.82*

* $p < .05$.
** $p < .01$.
Note: PS = present-smoker, SBBQ = Smoking-Behavior and Belief Questionnaire.

Table 8 presents for the former-smoker group the per cent of "yes" responses to the items in the Smoking-Behavior and Belief Questionnaire and the significant chi squares.

D. Discussion

The Smoking-Attitude Scale developed for this study appears to be a reliable and discriminating measure of the smoking attitude of college males. Although the present-smoker group, the former-smoker group, and the nonsmoker group differ significantly in smoking attitude, wide individual differences exist within each group. Some smokers reported a less-favorable smoking attitude than some nonsmokers and *vice versa*. Perhaps these extreme-attitude *S*s were on

the threshold of modifying their own typical smoking behavior; if so, the Smoking-Attitude Scale may be a useful means of identifying individuals planning to change. A retesting of the same sample after one year is planned to determine if certain *S*s did change their behavior, attitude, or both. According

TABLE 8
PER CENT WITHIN FS GROUP RESPONDING "YES" TO SBBQ QUESTIONS AND CHI SQUARE BASED ON TEST OF INDEPENDENCE OF RESPONSES

Question	% Yes	% Yes	Chi square
	Did inhale	*Did not inhale*	
Does your mother smoke?	100.0	65.0	5.38*
Did you like the taste of smoking?	93.8	62.5	4.57*
Did smoking help you express yourself?	4.0	38.6	7.55**
Do you mind others smoking about you?	8.0	71.5	12.87**
Have you stopped smoking more than two years?	44.0	100.0	6.97**
	Pleasure from smoking	*No pleasure from smoking*	
Did you like the taste from smoking?	100.0	68.6	5.93*
Did you smoke before beginning high school?	12.5	33.3	5.04*
Have you stopped smoking more than two years?	43.6	68.6	4.61*
Do you participate in extracurricular activities?	87.5	62.5	3.87*
	Found it difficult to stop	*Did not find it difficult to stop*	
Were you a heavy smoker?	63.5	23.7	4.86*
Do you believe you smoked too much?	61.5	21.0	5.40*
Did you smoke more at leisure?	23.8	63.5	4.89*
Have you stopped smoking more than two years?	33.3	70.0	4.10*

* $p < .05$.
** $p < .01$.
Note: FS = former-smoker, SBBQ = Smoking-Behavior and Belief Questionnaire.

to Festinger (3), high cognitive dissonance cannot be tolerated indefinitely; however, the dissonance observed in the present study is consistent with Lawton and Goldman's finding (4) that certain cancer-research scientists who link smoking with lung cancer still maintain their smoking behavior.

It would be interesting to determine why the nonsmoker group reports a

more-unfavorable smoking attitude than the former-smoker group. Perhaps the absence or ignorance of the smoking experience may encourage this unfavorable smoking attitude in the nonsmoker group, while the experience of having smoked and then having not smoked may have encouraged in the former smokers a more-enlightened or more-tolerant view of smoking. Since the former smokers were at one time smokers (and if their own smoking attitude then coincided with that of present smokers), it seems that an attitude change was associated with the stopping of smoking for the former-smoker group.

Because 100 per cent of the former-smoker group reported a belief in the relationship between lung cancer and smoking and (of the three groups) agreed the most that life expectancy was reduced from smoking and were the least willing to have their own children smoke, it seems that the health motive may have been an important determiner of their stopping their smoking. However, since some present smokers also responded to the questions in the same way as former smokers, other motives probably were equally important and necessary before the former smokers stopped smoking. Salber, Welsh, and Taylor (7) have listed seven major categories of reasons given by high-school students for stopping smoking, the health motive being only one of them.

Although heavy smokers were not found to differ from light and moderate smokers in their smoking attitude, Table 7 shows that the two groups differ in their smoking beliefs and behavior. The pattern of response for inhalers, heavy smokers, and smoke-cigarettes-only smokers seems to reflect a greater dissatisfaction with smoking, yet less belief that they could stop or would stop smoking. Such a finding implies that the reason such *S*s may continue to smoke may be different from the reasons frequently cited (6, 7) for beginning smoking.

Fewer significant chi squares based on the comparison of the "yes" responses to the items in the Smoking-Behavior and Belief Questionnaire were found within the former-smoker group and nonsmoker group than in the present-smoker group. This is in part due to the smaller sample sizes of the former-smoker and nonsmoker groups as compared to that of the present-smoker group, and to the greater homogeneity in the smoking beliefs within the former groups. However, since the former-smoker and nonsmoker groups were found to be significantly different in smoking attitude, it seems necessary that the two groups be evaluated separately rather than be merged into a common group of "nonsmokers."

E. Summary

A Thurstone-type Smoking-Attitude Scale and a Smoking-Behavior and Belief Questionnaire were given to 405 college males: 249 present smokers, 32 former smokers, and 124 nonsmokers.

The Smoking-Attitude Scale was found to be a reliable and discriminating measure for each group, with former smokers reporting a more-favorable attitude than nonsmokers and a less-favorable attitude than present smokers.

When present smokers are compared with former smokers and nonsmokers in smoking beliefs, fewer present smokers are found to believe in a relationship between smoking and lung cancer or in a reduction in life expectancy; fewer are bothered by the smoke from smoking, and more are willing to have their own future children smoke.

A greater consistency is apparent within the former-smoker and nonsmoker groups in smoking beliefs and smoking attitude than is found within the present-smoker group. Inhalers, heavy smokers, and those who smoke cigarettes only report a greater dissatisfaction with smoking behavior than do other smokers; yet fewer of them believe they will or can stop smoking.

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CHANGES IN INTOLERANCE AND AUTHORITARIANISM FOR SORORITY AND NONSORORITY WOMEN ENROLLED IN COLLEGE FOR TWO YEARS* [1]

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A. INTRODUCTION

In some 30 different collegiate settings there are in progress studies that concern the effect, if any, of a college education upon those who experience it. The focus of these studies is upon the nonintellectual characteristics of college freshmen and on any change in these nonintellectual characteristics that seems to be associated with the collegiate experience.

Many of the investigators are concerned not only with trying to describe the changes in nonintellectual characteristics of students as they progress through college, but are also trying to focus on selected aspects of the college experience that might facilitate or hinder change in the student's personality characteristics, interests, values, views on life, attitudes, ideology, or expectations. One type of collegiate experience that is coming under consideration is the identification by the student with a particular organized social group within the college context. One of the most frequently mentioned of the organized social groups to come under observation is the social sorority or the social fraternity.

Interest in the sorority and fraternity groups by investigators of "college impact" is probably a function of several factors. These groups are relatively visible on a college or university campus; therefore, their members are relatively easy to identify. More important, it is widely known that many of these groups select their members in part in terms of nonmembership (or membership) in specified racial, religious, or ethnic groups. It should not be surprising that interest centers in the sorority and fraternity groups and the possible measurable effect such membership may have on subjects.

Published studies that deal with the characteristics of persons who become members of social sororities or fraternities have typically reported differences along predicted lines. For example, Levinson and Sanford (3) tested social-

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sorority and nonsorority women at the Berkeley campus of the University of California with the Anti-Semitism Scale and found a significant difference between the scale means for the two groups. The social-sorority women were significantly more anti-Semitic than were the nonsorority women.

No studies have been found that report *change* in characteristics of groups of social sorority and nonsorority women over time, except for earlier studies at our own institution. This one earlier study (4), which was different from others both in terms of findings and design, was for the two-year period from 1953 to 1955. The California Ethnocentrism Scale (1), a measure of "avowed prejudice," was administered to all entering freshmen in 1953 and again to most of those still enrolled in 1955 at San Jose State College. The relevant findings for sorority *vs.* nonsorority women in this earlier study were as follows:

1. Tests of the significance of the difference between 1953 prefreshman Ethnocentrism Scale means for women who became sorority members and for those who did not become sorority members yielded no statistically significant difference.

2. Both groups changed significantly over the two-year period in the direction of decreased ethnocentrism or prejudice.

As a result of a second local college-impact study (5), the opportunity was provided to replicate the 1953-to-1955 sorority-*vs.*-nonsorority study in the same college and with the same sororities. This report is of the replication study and for additional variables related to prejudice.

B. Procedures and Subjects

Three scales were given to 2,350 persons who took the college-prematriculation test battery at San Jose State College. All subjects tested were would-be college freshmen, ostensibly to enter the college in the fall semester of 1958. All initial testing was done during the regularly scheduled prematriculation testing periods in the summer and fall of 1958.

The three scales given were: (*a*) Rokeach's Dogmatism Scale, (6) the D Scale; (*b*) the modified California Ethnocentrism Scale (1), the E Scale; and (*c*) Gough's modified Authoritarianism Scale (2), the F Scale. The E Scale consisted of 30 of the original 34 items. (Four items were eliminated because the contents were out of date). The Gough F Scale and the Rokeach D Scale were included because of the desire to measure the authoritarian variable, in addition to the ethnocentrism or intolerance variable.

Of the total of 2,350 persons tested in 1958, 1,343 were females; 1,007, males. The concern in this paper is with the female subjects. The author attempted in 1960 and again in 1962 to retest all of the original 1958 subjects

with the three scales, but he will limit in discussion to the 1958 and 1960 data for females.

At the close of the spring semester 1960, the author found that 1,130 of the originally tested 1,343 female subjects enrolled in the fall of 1958. Of the 1,130 enrolled subjects, 552 had completed two academic years of college attendance. Slightly less than one-half of the females who started in 1958 were still enrolled near the close of the spring semester of 1960.

Usable retests with the three scales were obtained from 449 (or 81 per cent) of the 552 females enrolled for two years from 1958 to 1960. This retest sample of 449 constitutes the sample for which analyses were made on the sorority and nonsorority subjects. Of the 449 retested females, 124 had joined a social sorority during the two-year period; the other 325 had not. These two groups were the study groups for this replication study.

C. Analyses and Results

Statistical tests of the significance of the difference between uncorrelated sample means were conducted for sorority *vs.* nonsorority subjects for the 1958 prefreshman D, E, and F scales. These analyses were conducted to determine if there were prefreshman differences in intolerance and authoritarianism between females who later joined sororities and females who did not later join sororities. Table 1 contains the relevant data and results for

TABLE 1
Prefreshman D-Scale, E-Scale, and F-Scale Mean Differences for Sorority *vs.* Nonsorority Females Enrolled Four Semesters 1958 to 1960

	Sorority ($N = 124$)		Nonsorority ($N = 325$)		
Scale	Mean	*SD*	Mean	*SD*	*t*
D	155.07	23.38	153.47	27.30	.62
E	83.44	22.26	79.12	23.15	1.82
F	121.99	22.38	120.74	22.12	.53

these comparisons. None of the resulting *t* ratios is statistically significant. These results are similar to those obtained in the earlier study.

To determine whether or not the sorority females changed significantly over the two years in college attendance, statistical tests of the significance of the difference between correlated sample means were computed for sorority-female 1958 and 1960 D-scale, E-scale, and F-scale means. The upper portion of Table 2 contains the relevant data and the results of these two-year comparisons. All three 1960-mean scores are lower than the comparable 1958-mean scores for the sorority females, and each of the three *t* ratios is significant beyond the .01 level of probability. Sorority females enrolled in college for

a two-year period became less dogmatic, less ethnocentric, and less authoritarian over the two-year period of time.

Statistical tests of the significance of the difference between correlated sample means were also undertaken for the 1958 and 1960 D, E, and F scales

TABLE 2
CHANGES IN D-SCALE, E-SCALE, AND F-SCALE MEANS 1958 TO 1960 FOR SORORITY AND NONSORORITY FEMALES ENROLLED FOUR SEMESTERS 1958 TO 1960

Group	Scale	1958 Mean	1958 *SD*	1960 Mean	1960 *SD*	*r* 58-60	*t*
Sorority ($N = 124$)	D	155.07	23.38	137.53	25.32	.67	9.80*
	E	83.44	22.26	73.60	21.72	.63	5.75*
	F	121.99	22.38	101.59	19.49	.59	11.79*
Nonsorority ($N = 325$)	D	153.47	27.30	139.54	22.09	.77	13.02*
	E	79.12	23.15	67.62	19.00	.64	11.39*
	F	120.74	22.12	101.40	22.82	.55	16.25*

* $p < .01$, two-tailed test.

TABLE 3
DIFFERENCES BETWEEN MEAN 1958 TO 1960 D-SCALE, E-SCALE, AND F-SCALE CHANGE SCORES FOR SORORITY AND NONSORORITY FEMALES ENROLLED FOUR SEMESTERS 1958 TO 1960

Scale	Sorority ($N = 124$) Mean change	Sorority SE_d	Nonsorority ($N = 325$) Mean change	Nonsorority SE_d	*t*
D	—17.54	1.79	—13.93	1.07	1.97*
E	— 9.84	1.71	—11.50	1.01	.84
F	—20.40	1.73	—19.34	1.19	.50

* $p < .05$, two-tailed test.

for the sample of nonsorority females. Table 2 also contains the data and results for these two-year comparisons. Again, all 1960-mean scores are lower than the comparable 1958-mean scores, and each of the *t* ratios is significant beyond the .01 level. The mean changes for the nonsorority females indicate that these subjects became less dogmatic, less ethnocentric, and less authoritarian over the two-year period of time. The results for both the sorority and nonsorority samples in terms of change over time in college are similar to those obtained in the earlier study.

To determine whether or not there were differences in mean change scores on the three study scales between the sorority and nonsorority samples, statistical tests of the significance of the difference between 1958-to-1960 mean change scores were computed. Table 3 contains the data and the results for these comparisons.

One of the mean change-score differences yielded a t ratio significant at the .05 level of probability. The mean change for the sorority sample on the D Scale is significantly greater than the mean change on the D Scale for the nonsorority sample.

D. Discussion

The comparisons of initial or prefreshman status for subjects who joined social sororities and were enrolled for two years in college and for subjects who did not join a social sorority and were enrolled for two years in college yielded mean differences well within the range of chance expectation. There were apparently no selective factors in measured intolerance and authoritarianism associated with joining a social sorority.

Both the sorority and nonsorority samples changed significantly in measured dogmatism, ethnocentrism, and authoritarianism over the two-year period of college enrollment. Without exception, the changes were in the direction of decreased intolerance and authoritarianism; and the changes were similar to those reported from the same institution at an earlier time.

The differences in mean change scores between the two groups tended, if anything, to favor the sorority sample; at least in terms of change in Dogmatism Scale scores.

Taking all three sets of comparisons into account, it has been difficult to find evidence to support the proposition that sorority membership is associated with any higher degree of intolerance or authoritarianism than is nonmembership.

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RACIAL ATTITUDES AND EMOTIONAL RESPONSE TO VISUAL REPRESENTATIONS OF THE NEGRO*

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A. INTRODUCTION

That strong attitudes are accompanied by great emotional support has been advanced by numerous authors (4, 9, 13). With respect to racial attitudes, the few available studies suggest a positive relationship between racial attitudes and emotional response. Emotionality is defined in these studies by a physiological reaction, the galvanic skin response (GSR). Although GSR is not specific to emotion, it appears in any number of states which are generally presumed to be emotional, such as startle, amusement, fear, anger, sexual excitation, and euphoria.

Rankin and Campbell (11), in a study using both Negro and white experimenters, found significant differences in GSR between high-prejudiced and low-prejudiced *Ss* when the two experimenters alternated in adjusting a dummy apparatus attached to each *S*'s wrists. Cooper and Siegel (2) had *Ss* rate 20 ethnic groups while undergoing simultaneous GSR recording. Twenty of 23 *Ss* who displayed strong nationality antipathies on a previously administered scale gave greater GSRs to stimulus words (e.g., Jew and Russian) toward which they had already indicated strong negative attitudes. Cooper and Singer (3) found that all strong attitudes, both favorable and unfavorable, are accompanied by heightened emotionality, but that the GSR is greater for objects of strong negative attitudes than for objects of strong positive attitudes.

In the present study an attempt was made to determine further the relationship between racial attitudes and physiological emotionality, as measured by the GSR. Specifically, we were concerned with the emotional responsiveness of individuals high or low in anti-Negro feelings to visual stimuli with or without Negro content. Two hypotheses were proposed: (*a*) high-prejudiced *Ss* evidence greater GSRs to photographs of Negroes and Negro-white interactions than do low-prejudiced *Ss* and (*b*) photographs of Negroes and Negro-white interactions elicit greater GSRs than do photographs of whites or photographs of nonhuman content for all *Ss*.

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B. Method

1. *Attitude Scale*

A 40-item scale of attitudes toward Negroes was designed specifically for this study. Items were taken from several sources, including the California E and F Scales (1), a scale reported by Garrison (5), and a pool of items devised by the authors. Appropriate paraphrasing of previously used items was exercised when necessary in order that all items read in a negative direction. Items were scaled on a modified Likert technique, with a seven-point range allowing no neutral response. This scale was given to introductory psychology students by an associate of *E*, two weeks prior to the beginning of the experiment.[1]

A Spearman-Brown corrected split-half (odd-even) reliability coefficient of .95 was obtained from a random sample of 100 of the total pool of 214 completed scales. The total distribution of scores approximated a normal distribution but was platykurtic. The possible scoring limits ranged from 40 to 260, with a hypothetical mean of 160. The actual distribution ranged from 41 to 259, with a median of 167, a mean of 164, and a standard deviation of 37.62.

2. *Subjects*

From a total pool of 214 students enrolled in elementary-psychology courses during the fall semester of 1961 and who completed the attitude scale, 20 high scorers and 20 low scorers were selected as *S*s for the present study. One-half of the *S*s were males and one-half were females, each half representing the extreme scorers for the respective sexes on the obtained continuum of scores.

3. *Apparatus and Materials*

The GSR unit of a Keeler Polygraph, Model 302C, was used as the physiological measuring instrument. Automatic recording of galvanometric deflections was provided by the kymographic unit. A standard drum speed of six inches per minute was used throughout the experiment.

Owing to dampening or adaptation effects that are known to occur to prolonged stimulation in the GSR technique (11, 12), the total number of stimulus figures was held to a minimum. Stimuli consisted of 18 photographs mounted on eight-by-10-inch cards. The selection and the categorization of the photographs was made through the agreement of three judges. Eight photographs consisted of landscapes and architectural structures, but three

[1] Copies of this scale and of the photographic stimuli used in this study are available upon request from the senior author.

of these were used to calibrate the GSR unit for each *S* during the preexperimental period instead of as experimental stimuli. Five photographs were of Negroes or Negro-white interactions, and the remaining five were of whites approximating the actions in the Negro-Negro-white photographs. These three photograph groupings were designated as the (*a*) neutral-treatment, (*b*) critical-treatment, and (*c*) control-treatment conditions respectively.

To obviate any possible serial-positioning effects and to insure randomization, the stimulus photographs were shuffled prior to presentation to each *S*.

An isolated, quiet room was used for the experiment; and a stand containing the stimulus cards was mounted on a table three feet above the floor. The subject was seated in a chair equipped with an armrest approximately two-and-one-half feet from, and directly facing, the stand. The recording apparatus, behind a baffle that prevented *S* from viewing the polygraph recording, was located at right angles to *S*.

4. *Procedure*

Enroute to the experimental room, *E* said to *S*:

> Your name has been selected randomly from a list of volunteers who are available for this research. Be assured that we are not concerned with your reactions *per se*, but only in how your group does collectively.

E then ushered *S* into the room and requested that he be seated; then *E* continued:

> I am going to attach this device to your hand; you will not be shocked nor will you feel anything. All I want you to do is tell me whether you like, dislike, or are indifferent to a series of pictures that I'm going to show you. Look at the pictures for several seconds before you answer.

E then attached the electrode to *S*'s right hand and said:

> It will take me a few minutes to adjust the apparatus; so please try to relax. Try to refrain from making any muscular movements or talking[2] during the experiment except to answer whether you like, dislike, or are indifferent to the pictures. Do you understand? When I say "ready," I will present the first picture.

After obtaining a basal response for *S* on the three neutral-calibration photographs (which took approximately three to five minutes) *E* uncovered the

[2] Greenwald (6) has shown that talking has little effect on the GSR; however, the authors felt that owing to the possible effects on tension or relaxation in *S*, the precaution mentioned should be taken.

first test pictures. When the recording pen returned to the basal level,[3] *E* uncovered the second picture. This procedure was followed throughout the experiment, with *E* making appropriate record of the order of presentation and noting the *S*'s verbalization of like, dislike, or neutral remarks on the kymogram.

5. *Response Measures*

Galvanometric deflections were analyzed according to the area contained within the tracing formed by the recording pen on the recording chart. Specifically, *E* counted on the chart the number of blocks (and fractions) encompassed by the tracing between the rise of the recording pen from, and its subsequent return to, the basal level.

Although the sensitivity of the galvanometer was held constant for a given *S* throughout the series of trials, considerable intersubject variability of course would be expected due to the different initial skin-resistance levels; consequently, it was necessary to standardize the data such that intersubject differences due to basal-resistance levels would be negated. This was accomplished by converting raw scores to *T* scores according to the procedure described by Guilford (7).

C. Results

The standardized scores were subjected to a $2 \times 2 \times 3$ analysis of variance, the variables being sex (male and female), prejudice (high and low), and treatments (critical, control, and neutral). From Table 1, it is apparent that differences occurred among the various treatment conditions. Highly significant *F* ratios were obtained for treatments ($F = 43.88$, $p < .01$), the treatment-by-sex interaction ($F = 7.38$, $p < .01$), and the treatment-by-prejudice interaction ($F = 4.84$, $p < .01$). It should be emphasized that there were no significant differences in physiological response attributable to sex or prejudice per se, indicating that whatever differences occurred were due to the imposition of the various treatment conditions.

The mean GSRs of all experimental groups are presented in Table 2. Critical differences between the means were computed according to the procedure outlined by Lindquist (10, pp. 90-95). These differences are also contained in Table 2.

Table 2 indicates that for all *S*s the critical photographs produced significantly greater mean galvanometric deflections than did the corresponding con-

[3] Hunt and Hunt (8) have shown that basal resistance is unimportant if successive measurements of GSR are made from the same level. This condition was fully met in the present study.

trol or neutral photographs. The average GSR produced by the control photographs was, in turn, significantly greater than that elicited by the neutral photographs.

The most important findings of this study, in terms of the hypotheses

TABLE 1
ANALYSIS OF VARIANCE FOR ALL EXPERIMENTAL CONDITIONS

Source	Sum of squares	*df*	Mean square	*F*	*p*
Between subjects	34.339	39	.881		
Sex (S)	.093	1	.093	.10	NS
Prejudice (P)	.870	1	.870	.98	NS
S × P	1.447	1	1.447	1.63	NS
Error	31.928	36	.887		
Within subjects	3293.638	80	41.171		
Treatments (T)	1558.094	2	779.047	43.88	< .01
T × S	262.069	2	131.035	7.38	< .01
T × P	171.865	2	85.933	4.84	< .01
T × P × S	23.413	2	11.707	.66	NS
Error	1278.197	72	17.753		

TABLE 2
TREATMENT MEANS

Subjects	*N*	Photographic stimuli: Critical (*a*)*	Control (*b*)**	Neutral (*c*)***	*p* value: (*a*) *vs.* (*b*)	(*a*) *vs.* (*c*)	(*b*) *vs.* (*c*)
1. All subjects	40	54.54	48.95	45.83	.01	.01	.01
2. High-prejudice *Ss*	20	56.32	48.14	45.13	.01	.01	.05
3. Low-prejudice *Ss*	20	52.77	49.76	46.54	.05	.01	.01
4. Male *Ss*	20	56.65	47.74	45.02	.01	.01	.05
5. Female *Ss*	20	52.44	50.16	46.65	n.s.	.01	.01
6. High-prejudice male *Ss*	10	58.69	46.43	44.87	.01	.01	n.s.
7. Low-prejudice male *Ss*	10	54.41	49.04	45.17	.01	.01	.05
8. High-prejudice female *Ss*	10	53.95	49.84	45.38	.05	.01	.05
9. Low-prejudice female *Ss*	10	50.93	59.48	47.91	n.s.	n.s.	n.s.

* *p*: 2 *vs.* 3 = .01; 4 *vs.* 5 = .01; 6 *vs.* 7 = .05; 8 *vs.* 9, n.s.; 6 *vs.* 8 = .05; 7 *vs.* 9 = .05.
** *p*: 2 *vs.* 3, 4 *vs.* 5, 6 *vs.* 7, 8 *vs.* 9, 6 *vs.* 8, 7 *vs.* 9, all n.s.
*** *p*: 2 *vs.* 3, 4 *vs.* 5, 6 *vs.* 7, 8 *vs.* 9, 6 *vs.* 8, 7 *vs.* 9, all n.s.

proposed, concern the physiological responsiveness of the high-prejudice and low-prejudice groups in the three treatment conditions. The mean GSR for the high-prejudice group was found to be significantly greater than the low-prejudice mean GSR for the critical-treatment condition, but not for the control-treatment or neutral-treatment conditions. In the latter two com-

parisons, the mean GSR for the low-prejudice group was greater than for the high-prejudice group, but these differences were not significant at the .05 level. Both the high-prejudice group and the low-prejudice group gave significantly greater mean GSRs to the critical photographs than to either the control or the neutral photographs.

Males gave a significantly greater mean GSR than the females to the critical photographs than to the control or the neutral photographs. In fact, in the control-treatment and the neutral-treatment conditions, the females responded more than the males; but not significantly so. The male group also produced a greater mean GSR to the critical photographs than they gave to the control photographs. This difference was not found for the female group.

Even though the triple interaction of treatments by prejudice by sex was found to be nonsignificant in the analysis of variance, the differences between the means of the treatment groups for all relevant comparisons were computed to provide a more detailed understanding of the interrelationships among the three variables. These data are also presented in Table 2.

A significantly greater mean GSR to the critical photographs was obtained for the high-prejudice males than for the low-prejudice males. High-prejudice and low-prejudice females did not differ significantly for the critical photographs. No significant differences in mean GSR were found for either high-prejudice and low-prejudice males or females on the control and neutral conditions.

On the critical photographs, for the high-prejudice males, a significantly greater mean GSR was obtained than for the high-prejudice females; also, the low-prejudice males were more physiologically responsive to the critical photographs than were the low-prejudice females. These findings were not obtained for either the control-treatment or the neutral-treatment conditions.

On the comparison between physiological response to the critical, control, and neutral photographic stimuli, the following findings were obtained: high-prejudice males gave a significantly greater mean GSR to the critical photographs than to the control or the neutral photographs. The same differences were found for the high-prejudice females and for the low-prejudice males on differential GSR responsiveness to the critical, the control, and the neutral photographs. The low-prejudice females did not respond significantly differently to the three treatment conditions.

A chi-square analysis of the verbalized preferences to the various photographs (between high-prejudice and low-prejudice males, between high-prejudice and low-prejudice females, and between all high-prejudice and all

low-prejudice *Ss*) show only the critical photographs to yield any significant chi-square ratios. All of the nine possible comparisons within the critical-treatment condition, except that between the high-prejudice and low-prejudice females for the neutral-response category, were significant at the .05 level of confidence. These data indicate that the high-prejudice group verbally rejected the Negro stimuli and the Negro-white stimuli, while the low-prejudice *Ss* expressed relatively greater preferences for these pictures.

D. Discussion

Prior studies have demonstrated that heightened GSR is obtained by exposing persons with strong anti-Negro attitudes to Negroes in person, to statements about Negroes, and to the verbal stimulus "Negro." The present investigation extends this line of evidence to include physiological emotional reactivity to pictorial representations of Negroes.

The obtained differences in GSR between high-prejudice and low-prejudice *Ss* to Negro stimuli supports the widely held belief of social psychologists that prejudicial attitudes are "emotional." This view is correct insofar as the attitudes are accompanied by physiological activity; however, no evidence is available to argue against the possibility that *all* extreme attitudes or beliefs have physiological concomitants. Needed are studies that examine the differential physiological responsiveness of extreme believers on a variety of belief systems other than beliefs about ethnic groups.

The obtained sex differences in this study, indicating a greater GSR for males than for females to the critical Negro and Negro-white photographs, was unexpected because earlier investigators had not used sex as an independent variable and because we had no intuitive reason to expect males and females to react differently. A detailed examination of the mean GSRs for the four treatment groups to each critical photograph indicates the locus for the overall sex difference. The mean GSRs of the high-prejudice and low-prejudice males and females to two of the critical pictures—that of a Negro male kissing a white female and that of an integrated eating scene—were not significantly different from each other. Both high-prejudice males and low-prejudice males reacted more strongly than the combined females to the remaining three pictures of a seated Negro male, an integrated family scene, and a Negro male and a white female dancing. For the first two pictures, the mean GSRs of the high-prejudice males were significantly higher than those for the low-prejudice males; thus, while the obtained sex difference is to some extent a function of the generally heightened physiological reactivity of the high-prejudice males to the critical photographs, the fact that

the low-prejudice males also produced higher than expected GSRs raised the question about the meaning of measured racial attitudes in this group. This question demands further examination.

Experimental purists can ask whether the GSRs in this study were a function *only* of the stimulus photographs or were they contaminated or mediated by the verbalized preferences elicited upon stimulus presentation? We have no data in the present study to answer this question, but plan to examine it in a future replication.

Finally, one may note that our data say nothing about what occurs physiologically to prolonged exposure to Negro stimuli for the anti-Negro *S*. Does the physiological response of the prejudiced person to stimuli representative of his rejected group continue unabated at the high level noted in this experiment? Does adaptation take place with subsequent lowering of the GSR? Or does continued perception of the object of negative beliefs possibly elevate autonomic reactions to an even higher level? Studies which may answer these questions are currently underway.

E. Summary

This study investigated the degree of "emotional support" of strong racial attitudes. Specifically, the hypothesis was tested that persons with high anti-Negro prejudice exhibit greater GSRs than do low-prejudice individuals to photographic stimuli with Negro content than to non-Negro stimuli.

Forty *S*s (20 male, and 20 female) who were extreme scorers among 214 introductory-level university students were asked to respond to a new 40-item, highly reliable, Likert-type Negro attitude scale. Four experimental groups of 10 *S*s each were established: high-prejudice males, high-prejudice females, low-prejudice males, and low-prejudice females.

While undergoing GSR recording, each *S* simultaneously stated whether he "liked," "disliked," or was "indifferent to" 15 randomly presented mounted photographs matched for size and quality. Five photographs were of Negroes or Negro-white interactions (critical), five were of whites approximating the content of the critical photographs (control), and five were photographs of pastoral or architectural scenes without human content (neutral). Three additional neutral photographs were used for polygraph calibration for each *S*.

The response measure used was the total area of galvanometric deflection for each picture above each *S*'s own basal level. All data were converted to standard scores to equate intersubject differences in basal skin-resistance level.

The results support the hypothesized relationship between prejudice level and stimulus treatment. Specifically, (*a*) critical stimuli elicited significantly

greater GSRs for all *Ss* than did control or neutral photographs; (*b*) high-prejudice *Ss* gave significantly greater mean GSRs to critical photographs than did low-prejudice *Ss*, but these groups did not differ on control or neutral stimuli; (*c*) similar findings held for male *Ss* and female *Ss*, with males producing significantly greater GSRs than females to critical photographs, but not to control or neutral photographs; (*d*) on the critical photographs, high-prejudice males were most responsive, followed by low-prejudice males, then high-prejudice and low-prejudice females; (*e*) all *Ss* showed a high degree of consistency between attitude-scale response, physiological responsiveness, and verbalized preferences for the photographs.

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RACIAL ATTITUDES AMONG WHITE AND NEGRO CHILDREN IN A DEEP-SOUTH STANDARD METROPOLITAN AREA*

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A. Introduction

Although the entire issue of school integration occupies the focus of attention for the lay public, there has been little systematic study of the dynamics governing the sociopsychological attitudes and adjustments of the subjects directly concerned. In the past 25 years relatively few studies have been devoted to the attitudes of the children who would be directly involved in the social-action programs designed to integrate the elementary schools of the deep South. Most of the studies conducted on preschool children or those in the lowest elementary-school grades have been conducted outside the deep South. Perhaps the most elaborate study of the racial attitudes of young children was conducted by Goodman (10, 11) in a Northern metropolitan area. Landreth's study (21) was conducted in California, Helgerson's (16) in Minnesota. R. Horowitz's study of self-identification (18) was conducted in the Northeast. Criswell's experiments (8) in racial cleavage were conducted in New York City. Radke, Trager, and Davis' work (23) was conducted in Philadelphia. Springer's study (24) concerned non-Negro subjects and was conducted in Hawaii. Stevenson and Stevenson's more-recent work (25) concerned itself with preschool white and Negro children in Austin, Texas, and that of Price (22) with school children in Gainesville, Florida. The bulk of Clark and Clark's work (3, 4, 5, 6) was conducted in Washington, D. C., and apparently only in one instance (6) were subjects from Arkansas included. E. Horowitz, in his early work (17), employed subjects from Tennessee and urban and rural Georgia as well. The recent psychiatric study by Coles (7) involved nine Negro children entering elementary school in New Orleans, Louisiana.

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[1] This research was undertaken with the assistance of a grant from the Human Genetics Fund. The experiment is part of the ongoing work of the Committee for the Study of Intergroup Relations (of which the senior author is Program Coordinator) of the Institut International de Sociologie (of which the senior author is Regional Secretary). The authors acknowledge the valuable assistance in the course of this experiment of both Negro and white school administrators and teachers who have chosen to remain anonymous.

Little experimental data, therefore, is available on the racial attitudes and personal identification of white and Negro children in the first grades of elementary schools in the deep South.[2] This brief account reports the responses of white and Negro elementary school children to a simple projective device construed as tapping racial attitudes and personal identification with respective racial groups.

B. Method

1. *Subjects*

The subjects were white and Negro children of both sexes between the ages of 6 and 7 ($N = 175$). The total number of white children tested was 83 (45 boys and 38 girls). The total number of Negro children tested was 92 (38 boys and 54 girls). The white *S*s were children of parents primarily of middle-class provenience. The Negro *S*s were children primarily of lower-class parents.

2. *The Test Device*

The test device was a variation of the Clark Doll Test (6). The *S*s were given two dolls approximately 17 inches tall, identical in form and feature, differing only in pigment. The dolls were clothed in brief diapers to expose maximum skin surface. The "white" doll was "white" complexioned, fair-haired and blue-eyed. The "Negro" doll was chocolate-colored, black-haired and brown-eyed.

The subjects were asked to make fixed alternative response to each of the following requests:

1. Show me the doll that you would like to play with.
2. Show me the doll that you like best.
3. Show me the doll that is a nice doll.
4. Show me the doll that has a nice color.
5. Show me the doll that looks bad.
6. Show me the doll that looks like a white child.
7. Show me the doll that looks like a colored child.
8. Show me the doll that looks like a Negro child.
9. Show me the doll that looks like you.

The requests were construed as tapping various cognitive-attitude and affective-attitude components. Questions 6, 7, and 8 ("Show me the doll that looks like a white child," "Show me the doll that looks like a colored child,"

[2] For the purposes of this discussion the deep South means the states of Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, and Virginia.

and "Show me the doll that looks like a Negro child") were understood as assessing the ability of the *S* to identify correctly the doll with the appropriate racial group. These questions were reserved until the first five had been asked because the first five were construed as tapping affective responses to the *S*'s own group. Had the racial association been called to the *S*'s attention, cognitive awareness might tend to deflect a spontaneous preferential or negative response.

The first request ("Show me the doll that you would like to play with") was conceived as providing evidence of a generalized positive-affect response. The second request ("Show me the doll that you like best") was conceived as affording occasion for more emphatic positive-affect response. The third request ("Show me the doll that is a nice doll") introduced a general-value term ("nice") that was construed as introducing a new affect dimension. In the fourth request ("Show me the doll that has a nice color") value was specifically ascribed to the color of the doll and was understood as relating the dolls to the socioperceptual traits of *S*s. Because the *S*s were characterized by traits of high social visibility (the color of their respective skins), the fourth response was conceived as more intimately relating the child to one or the other doll. The fifth request ("Show me the doll that looks bad") was expected to tap the *S*'s negative bias with respect to persons of one or the other color *after* the color of the dolls had been brought to *S*'s full awareness.

After *S* had given evidence of his preferences, as well as having identified his preferences with a specific racial group, he was instructed to "Show me the doll that looks like you," in order to tap his sense of personal identification with his racial group.

3. *Procedure*

*S*s were tested individually by test administrators of their own racial group. They were informed that they were to play a doll-choosing game. Their responses were recorded immediately on response sheets provided for that purpose. When *S* could not or refused to respond, that fact was recorded. Any spontaneous remarks made by *S*s in the course of the testing were recorded.

Testing was conducted in the public schools of a deep-South metropolitan area.[3] Both white and Negro *S*s attended racially homogeneous schools. White *S*s were tested in the familiar environment of their uniracial-school situation. Negro *S*s were tested under similar circumstances.

[3] It is the wish of the school administration involved in this study that the specific identity of the city be withheld.

C. Results

1. *The White Group*

The results obtained from white *Ss* are given in Table 1. The total response of the white group is that of a "normal" ethnocentric group. The response to the first four requests ("Show me the doll that you would like to play with," "Show me the doll that you like best," "Show me the doll that is a nice doll," and "Show me the doll that has a nice color") indicate significant ethnocentric preference (all chi-square probabilities less than .001). Over 79 per cent[4] of the *Ss* gave evidence of ingroup preference on all four of the preliminary preference requests. On the fifth request ("Show me the doll that looks bad"), 93 per cent of the white *Ss* indicated the "Negro" doll.

All the white subjects in the effective-test population correctly identified the test dolls with the appropriate racial group; their responses were 100 per cent correct on all three of the group-identification requests ("Show me the doll that looks like a white child," "Show me the doll that looks like a colored child," and "Show me the doll that looks like a Negro child"). On the self-identification request, all white *Ss* identified with the "white" doll. The results in Table 2 indicate no significant difference between male and female responses to any question.

2. *The Negro Group*

The results for Negro *Ss* are given in Table 3. As a group, Negro *Ss* are ingroup orientated. Negro *Ss* selected the doll bearing the socioperceptual traits of their own group in 49 per cent of the responses to the first request ("Show me the doll that you would like to play with") and in 59, 60, and 59 per cent of the responses to Requests 2, 3 and 4 ("Show me the doll that you like best," "Show me the doll that is a nice color," and "Show me the doll that is a nice doll").

In response to the fifth request ("Show me the doll that looks bad"), only eight *Ss* chose to respond out of a test population of 92. All those *Ss* who did respond chose the brown doll as the "bad" doll.

On the sixth, seventh, and eighth requests ("Show me the doll that looks like a white child," "Show me the doll that looks like a colored child," and "Show me the doll that looks like a Negro child"), Negro *Ss* showed almost as much proficiency as did white *Ss*. Only the sixth request ("Show me the

[4] Percentages were computed on the basis of the total number of responses made, not on the total number of subjects questioned. Except where indicated, the effective responses were no more than three less than the total test population.

TABLE 1
TOTAL WHITE RESPONSES

Color of doll	Play with 1		Like best 2		Nice doll 3		Nice color 4		Looks bad 5		White child 6		Colored child 7		Negro child 8		Like you 9	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Black	4	5	13	16	17	21	13	16	76	93	0	0	83	100	83	100	0	0
White	76	95	67	84	64	79	69	84	6	7	83	100	0	0	0	0	83	100

TABLE 2
WHITE MALE AND FEMALE RESPONSES

Sex and choice	Play with 1		Like best 2		Nice doll 3		Nice color 4		Looks bad 5		White child 6		Colored child 7		Negro child 8		Like you 9	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Chose black doll																		
Male	3	7	6	14	10	23	8	18	41	93	0	0	45	100	45	100	0	0
Female	1	3	7	19	7	18	5	13	35	92	0	0	38	100	38	100	0	0
Chose white doll																		
Male	39	93	37	86	33	77	36	82	3	7	45	100	0	0	0	0	45	100
Female	37	97	30	81	31	82	33	87	3	8	38	100	0	0	0	0	38	100

TABLE 3
TOTAL NEGRO RESPONSES

Color of doll	Play with 1		Like best 2		Nice doll 3		Nice color 4		Looks bad 5		White child 6		Colored child 7		Negro child 8		Like you 9	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Black	45	49	54	59	55	60	54	59	8	100	2	2	92	100	92	100	87	95
White	47	51	38	41	36	40	38	41	0	0	90	98	0	0	0	0	5	5

doll that looks like a white child") elicited a misidentification on the part of two per cent of the Negro respondents.

On the ninth request ("Show me the doll that looks like you"), 95 per cent of the Negro *S*s identified with the brown doll.

There was a significant difference between male-Negro and female-Negro responses on three preference requests. Female-Negro *S*s were consistently more outgroup orientated than male-Negro *S*s. The male and female responses are reported in Table 4. On the first preference request ("Show me the doll that you would like to play with"), 66 per cent of the male-Negro respondents chose the brown doll; while only 37 per cent of the female-Negro respondents made a similar choice ($p < .025$). On the second and fourth requests ("Show me the doll that you like best" and "Show me the doll that is a nice color"), male *S*s evinced ingroup preferences in 71 and 74 per cent of their choices; female-Negro *S*s made similar choices in only 50 and 48 per cent of the total responses (p's $< .10$ and $.05$).

On the ninth request ("Show me the doll that looks like you"), while only three per cent of the male-Negro *S*s misidentified themselves, seven per cent of the female-Negro *S*s did so.

3. *Interracial Comparison*

The attitude profile of both groups is essentially the same, with white attitudes of preference and avoidance more emphatic and more express. Over 79 per cent of the white responses on the four preference requests ("Show me the doll that you would like to play with," "Show me the doll you like best," "Show me the doll that is a nice color," and "Show me the doll that is a nice doll") favored the *S*'s own group. Negro responses favored their own group on the same requests just short of or in excess of 50 per cent. The comparison of Negro and white responses is shown in Table 5. The chi-square significances of the group differences on the four preference requests are .001, .001, .025, and .001.

On the fifth request ("Show me the doll that looks bad"), construed as providing evidence for negative bias, approximately 93 per cent of the white *S*s chose the brown doll, only one white *S* refusing to identify either doll as looking "bad." In comparison, only eight Negro *S*s chose to identify either doll as "bad," and all the choices were hostile to the ingroup; i.e., 100 per cent of the choices made by Negro *S*s making a choice identified the brown doll as "bad." Eighty-four Negro *S*s refused to identify either doll as "bad." The literature indicates that Southern Negroes "accommodate" [i.e., refrain from expressing openly hostility toward the white community (19, 20)]. If

TABLE 4
NEGRO MALE AND FEMALE RESPONSES

Sex and choice	Play with 1		Like best 2		Nice doll 3		Nice color 4		Looks bad 5		White child 6		Colored child 7		Negro child 8		Like you 9	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Chose black doll																		
Male	25	66	27	71	25	66	28	74	4	100	0	0	38	100	38	100	37	97
Female	20	37	27	50	30	57	26	48	4	100	2	4	54	100	43	100	50	93
Chose white doll																		
Male	13	34	11	29	13	34	10	26	0	0	38	100	0	0	0	0	1	3
Female	34	63	27	50	23	43	28	52	0	0	52	96	0	0	0	0	4	7
p of difference	.025—		.10—		n.s.		.05—		n.s.		n.s.		n.s.		n.s.		n.s.	

TABLE 5
COMPARISON OF NEGRO AND WHITE RESPONSES

Group and response	Play with 1*		Like best 2*		Nice doll 3**		Nice color 4*		Looks bad 5***		White child 6[n]		Colored child 7[n]		Negro child 8[n]		Like you 9[n]	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White children																		
Appropriate	76	95	67	84	64	79	69	84	76	93	83	100	83	100	83	100	83	100
Inappropriate	4	5	13	16	17	21	13	16	6	7	0	0	0	0	0	0	0	0
Negro children																		
Appropriate	45	49	54	59	55	60	54	59	0	0	90	98	92	100	92	100	87	95
Inappropriate	47	51	38	41	36	40	38	41	8	100	2	2	0	0	0	0	5	5

[n] Chi square of difference not significant.
* $p < .001$ (for chi square of difference).
** $p < .025$ (for chi square of difference).
*** See text.

the behavior of the Negro *S*s in this study is accommodative, approximately 88 per cent of the group harbor a negative bias toward the outgroup. Such a bias would be the obverse of ingroup preference and would be expected in a group that is ethnocentric. Should such an assessment be correct, the attitude profiles of the two groups would be essentially the same.

Both groups showed essentially the same aptitude in correctly identifying the racial characteristics of each racial community.

Both groups identified themselves with their own community. All the white *S*s identified with their racial group, and 95 per cent of the Negro *S*s made appropriate racial identification. Only five per cent of the Negro children misidentified themselves. Such a misidentification is understood to be an attempt to reduce the psychological distance between the individual and the valued outgroup.

D. Discussion

Both the white and Negro groups gave evidence of ethnocentricity. Each group manifested preference for the dolls characterized by the socioperceptual traits that define group membership. Evidence of preference (ascriptions of value) were followed by the individual *S*'s identification with the preferred and valued group image. Such circumstances seem calculated to enhance the individual *S*'s self-esteem.

As was expected, white preferences and avoidances were more emphatic than those of Negro *S*s. White preferences for the doll characterized by their own racial traits attained or exceeded 79 per cent on all preference requests. The corresponding measure of similar Negro preference approximated or exceeded 50 per cent. While no white *S* gave evidence of identity confusion, five per cent of the Negro *S*s gave evidence of harboring a hostile ego ideal.

While the two groups are not strictly comparable, the white sample being essentially from middle-class and lower-middle-class families and the Negro sample from lower-class families,[5] the Negro group gave evidence of a surprisingly well integrated and viable value system. The fact that only 19 Negro *S*s were identified as dark brown to black in skin color is evidence for the degree of ingroup preference and identity. Clark (3) indicates that the lighter-skinned Negroes tend to be outgroup orientated.[6] It would be expected

[5] The majority of white respondents gave white-collar and entrepreneurial occupations for their parents. Negro respondents came from families that reported parental occupations in service capacities (domestics primarily) or unskilled labor categories (common laborers).

[6] Two of the five Negro respondents who misidentified themselves as "white" were described as "practically white" on the response sheets. The remaining three were described as "light brown."

that a group composed, as the experimental population of this study, of a vast majority of lighter-skinned *Ss* would tend to be white orientated. Nonetheless the group evidenced preference for and identified with that group with which they will inevitably be identified throughout life.

Furthermore, the Negro experimental population was composed of 54 females and 38 males. As was indicated in this study and in a study on South African Bantu children (14), minority female *Ss* tend to be significantly more outgroup orientated than do minority male *Ss*. Were the sexes equally represented in the experimental population it would be expected that its ingroup orientation would be more emphatic.

While no systematic comparison with earlier studies is possible because of the variation in the age range of the experimental populations, some suggestions make themselves apparent. Clark's study (2, 6) of racial identification and preference among Negro children indicates that his sample, drawn substantially from the peripheral Southern states, while less outgroup orientated than Negroes resident in "integrated" situations, still showed marked preference for whites—none of the Negro ingroup preference choices attaining 50 per cent of the responses made. In this study employing a population from a segregated school in a deep South standard metropolitan area, Negro *Ss* gave evidence of ingroup preference of about 50 per cent or more in all of the four preference requests. Clark's study (6) included *Ss* from 3 to 7 years of age. Negro children from 3 through 5 years of age tend to be more outgroup orientated than those of 6 and 7 years of age. Nonetheless, the present study tends to support the thesis that Negro children tend to be more outgroup orientated the more systematically they are exposed to white contact. In maximum interracial-contact situations, Negro children tend to accord themselves with majority (i.e., Caucasian) attitudes (16, 21). Goodman (10, 11) reports that Negro children from approximately the ages of 2.5 to 4 years from a biracial school environment in the Northeast displayed marked outgroup preference; 74 per cent of the Negro *Ss* who committed themselves sufficiently to allow conclusions concerning their orientation to be drawn showed white preference, and 24 per cent displayed antagonism toward their own group. This is consistent with various studies conducted in biracial situations. Clark's comparative study (2, 6) of Negro children in a biracial and in a racially homogeneous situation indicates that *Ss* from northern biracial school situations display more decided white preferences and a more confused sense of self than do *Ss* from a uniracial school situation in which the minority children of high social visibility are partially insulated from white contact. Springer's study (24) of oriental children in Hawaii reports the same phenomenon.

Oriental children between the ages of three and six years of age were tested in an effort to collect data on their racial attitudes. It was found that there was a significant difference in the responses of Oriental children from a uniracial school situation when compared with the responses of Oriental children from a racially mixed school situation. Springer found that Oriental children from a racially homogeneous group tended to favor Orientals, while Orientals from a racially mixed group tended to favor Caucasians. The findings supported Clark's findings that although the trends with respect to racial preferences and self-identification were the same for Negro *Ss* in the northern biracial situations and the peripheral Southern racially homogeneous situations, the children in the former situations tended to be more likely to prefer the white doll, more emphatic in their rejection of the brown doll, and more likely to harbor a hostile ego image.

This study tends to support the suggestion made by Dai (9, p. 559) that the acceptance of white aesthetic preferences, particularly those bearing on skin color and facial features (one of the most fundamental obstacles to the development of a secure self system among Negro children), is the consequence of the exposure of Negro children to white children in maximum-contact situations during critical periods of personality formation. Similarly Brenman (1, p. 195) suggests that while the causes conducing to a stronger white than Negro identification among Negro children are multiple, the strongest among them seems to be protracted exposure to white contacts particularly during the years of early childhood. Gregor (12, 14) reports similar tendencies in Australia where aboriginal children are being more-and-more systematically drawn into white-contact situations and in the Republic of South Africa where the negroid Bantu find themselves similarly being drawn into white society.

E. Summary and Conclusion

Two groups of children ($N = 175$) in a deep-South standard metropolitan area, one composed of 83 white *Ss* and the other composed of 92 Negro *Ss*, were tested with a variation of the Clark Doll Test to assess racial attitudes, racial cognition, and sense of racial identification.

The white group was consistently ethnocentric, evincing white preferences, the ability to identify correctly white and Negro racial characteristics and a correct identification of self with their racial community. White *Ss* favored their own group in at least 79 per cent of the choices made on preference questions, were uniform in their ability to identify correctly the racial characteristics of the test dolls, and uniformly identified with their own racial group.

The Negro group displayed essentially the same characteristics. Negro *Ss* favored their own group, as a whole, on preference requests. They were uniformly correct in the identification of the racial traits of the test dolls. Only five per cent of the Negro *Ss* failed to identify with their own racial group.

The two groups tested in this deep-South standard metropolitan area gave evidence of having articulated a viable and secure self-system. They both valued the traits of their respective group and proceeded to identify with it. Such a value system enhances self-esteem. Its collective ego ideal is one with which each individual member can identify without psychic tension and a loss of self-esteem. The responses of the Negro test population reported in the study suggest that this sample has articulated one of the most secure and viable self-systems reported in the literature devoted to the personality development of Negro children. The major difference between the responses of the two groups was the indisposition of the Negro *Ss* to express their outgroup negative bias. Only eight Negro *Ss* out of a test population of 92 expressed the natural obverse image of ingroup preference (that is, outgroup negative bias). Eighty-four Negro *Ss* refused to identify either doll as "bad." The white *Ss*, in comparison, expressed such a bias in approximately 93 per cent of their responses. Only one *S* refused to identify either doll as "bad."

The data is significant in that it represents one of the few studies of racial attitudes and identification conducted in the deep South. It is important in that it provides data on attitude formation during the critical childhood years. It is reported as a preliminary study. It suggests that "segregation" as a *de jure* or *de facto* social system has many dimensions, and while we have good presumptive and clinical evidence of the negative effects of such a system on the Negro personality (15, 19, 20), there are aspects of its subsystems and their effect on Negro personality development that require more systematic and objective assessment (13).

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ATTITUDES OF STUDENTS ASSOCIATED WITH PARTICIPATION IN A MENTAL-HOSPITAL VOLUNTEER PROGRAM* [1]

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A. INTRODUCTION

It is not uncommon that undergraduate-psychology students take part in a planned program of interaction with mental-hospital patients. This interaction may be sponsored by such organizations as Psi Chi, by the hospital, or by the psychology department; and may involve sponsorship of a ward by the student group or sponsorship of individual patients by individual students under the direction of a hospital-staff member. The program that forms the basis of the present paper is one in which individual undergraduate students at the University of Hawaii, Honolulu, interact with individual patients at Kaneohe State Hospital for one afternoon a week, under the direction of a clinical psychologist on the hospital staff. Students who join this "companion program" must agree to take part for the entire school year. After approximately three "briefing" meetings with the hospital-staff psychologist, the students choose individual patient "companions" and spend one afternoon a week (usually from approximately 1:00 p.m.-3:30 p.m.) with their patient companions, talking, playing quiet games, walking around the grounds, etc. Following their interactions with the patients, the students spend a half an hour to an hour with the staff psychologist, discussing their experiences, and then return home. The program has been in operation for three years, but, so far as the authors are aware, has never been evaluated with regard to its effects on the students or on the patients. The present study is an attempt to obtain information concerning the attitudes (general attitudinal sets and also specific attitudes toward mental illness) of student companions as compared with two different control groups at the beginning of the year's companion program and after approximately one semester of participation.

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[1] This research was conducted by the first author in collaboration with the second author as part of an undergraduate course in directed research offered by the second author.

B. Method

1. *Subjects*

The companions tested were 16 of the 17 companions (the 17th was the first author, though the other companions were not aware of that fact) who were also taking a course in abnormal psychology at the University of Hawaii. Seventy other *Ss* taking abnormal psychology (but not part of the companion group) formed one of the comparison groups; 16 *Ss* selected from among a larger group taking a course in the psychology of learning (and selected on the basis of never having had a course in abnormal psychology, psychology of adjustment, mental hygiene, or any other course of this particular *genre*) served as a second comparison group.

2. *Materials and Procedure*

All 102 *Ss* were given the Custodial Mental Illness Ideology Scale (CMI), developed by Gilbert (2) as a scale to measure custodial views as opposed to humanistic views concerning mental patients, and the Rokeach dogmatism (D) scale (5) to determine (*a*) whether or not any original differences existed between the three groups of *Ss* and (*b*) the effects of varying experiences over the course of a semester.

The CMI scale is designed to measure two points of view toward the mentally ill. One point of view, the custodial, is that the patient cannot be helped (e.g., "Once a schizophrenic always a schizophrenic"); while the other attitude, the humanistic, is that patients are neither dangerous nor untreatable, have the same needs as all other human beings, and respond to those needs in a similar though distorted fashion. The use of the CMI scale is central because it measures attitudes toward patients and toward the role of the hospital.

The dogmatism scale measures the degree to which individuals hold inflexible and extreme positions. Gilbert and Levinson (3) have shown that scores on the California F scale (1) are substantially related to scores on the CMI scale. Apart from agreement response sets and yea-saying tendencies, one would expect these results if the F scale measures a dislike for the weak and the "deviant." One would expect that persons high in dogmatism should also be custodial in orientation because, in the black-and-white world of the dogmatic individual, the patient should be very ill indeed (so long as he is not well enough to operate in society) and should be unreliable and dangerous and require considerable supervision and have little hope for remission.

The authors used a general scale (D) as well as a patient-specific scale

(CMI) to determine whether or not participation in the companion program was primarily dependent on general or on patient-specific attitudes.

All *Ss* were tested within the first four weeks of the fall semester, 1963. In this testing, the items of the CMI and D scales, along with "filler" items taken from opinion and personality scales were randomly combined, so that *Ss* would not become fully aware of the primary purpose of the test—the measurements of attitudes toward mental patients. All companions were tested before having any face-to-face contact with patients. All *Ss* except one were tested a second time with the CMI and D scales at the end of the fall semester. Both scales were scored on a one-to-seven point basis, with low scores being assigned the least-dogmatic or most-humanistic position regarding a given item.

C. Results

The median CMI score for the 102 *Ss* tested on the first test was 59; for the 101 tested the second time, 57. The median D-scale score on the first test was 146; for the second test, 148. The relation between *Ss'* scores on the two scales is shown in Table 1.

TABLE 1
The Relation Between CMI and D Scores

	CMI scores			
	First test*		Second test**	
D scores	At or below the median	Above the median	At or below the median	Above the median
At or below the median	34	17	34	19
Above the median	17	34	20	28

* $\chi^2 = 10.04$, $df = 1$, $p < .01$.
** $\chi^2 = 4.10$, $df = 1$, $p < .05$.

There are no significant differences in either of the comparison groups in the proportion of *Ss* above or below the median on either of the two scales on either of the two tests. There are no significant differences among the companion students in their responses to the D scale on either the first or the second test; however, 12 of the 16 companions were at or below the median score (humanistic or orientation) on the CMI scale during the first testing, while 13 of the 16 were below the median score on the second administration of the CMI. Sign tests (4, pp. 312-313) show that the difference in the number of companions above and below the median approaches significance ($p < .10$) for the first test and is significant ($p < .05$) for the second. In all groups combined 49 *Ss* increased in CMI scores, three *Ss* remained un-

changed, and 49 decreased between the first and the second testing. There are no significant differences in the proportion of *Ss* with increasing or decreasing CMI scores within any group, but 11 of the 16 companions received lower (more humanistic) scores on the second test and, of the five *Ss* who received higher scores on the second test, four had the lowest, second-lowest, fourth-lowest, and fifth-lowest CMI scores of the entire group of 102 *Ss* on the first test. Thus, despite an increase in "custodial" orientation, the *Ss* remained far on the humanistic end of the dimension. Ten of the 15 companions also showed a decrease in D score between the first and second tests, while five showed an increase on the second test and one *S* was tied. Thirty-three of the untied *Ss* in the comparison groups showed a decrease in D score, while 48 showed an increase.

D. Discussion

For all *Ss* combined, CMI and D scale scores are correlated. However, *Ss* taking part in the companion program did not differ from the remainder of the group on D-scale scores but did have lower (more humanistic) CMI scores. This finding implies that, for *Ss* in general, attitudes toward mental illness are largely a result of a more general attitudinal framework; but that, for companions, attitudes toward patients are relatively distinct from more general attitudes. The significant decrease in the degree of relation between CMI and D scale scores between Tests 1 and 2 implies that added experience in psychology tends to produce a sharper differentiation between specific attitudes toward patients and general attitudinal sets.

It appears that the greatest proportion of the variance between companions and noncompanions was present before the companions had any contact with patients. For the most part, students in the companion program appear to be self-selected on the basis of having humanistic attitudes toward patients. Although the companion experience took place in a state hospital with relatively poor facilities, there was a strong tendency for participants to become more humanistic and less dogmatic as a result of the experience. Personal contact with patients does not appear to be disillusioning—at least for that small segment of undergraduate-psychology majors who seek this experience.

E. Summary

Students taking a course in abnormal psychology and taking part in a "companion" program involving interaction with individual mental patients and two "control" groups (one taking a course in abnormal psychology and one taking a course in the psychology of learning) were given tests measuring

attitudes toward mental patients and general dogmatism at the beginning and end of a college semester. For the sample as a whole, there is a significant relation between attitudes toward mental patients and general dogmatism. Companions score low (on the humanistic end of the continuum) on the device measuring attitudes toward patients, but do not differ from controls on D-scale scores. Companions are more humanistic in their attitudes toward patients prior to interacting with patients and tend to become more humanistic and less dogmatic as a result of this interaction.

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INTERACTION OF LEADER AND SQUAD ATTRIBUTES RELATED TO PERFORMANCE OF MILITARY SQUADS*

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A. INTRODUCTION

Many studies have been devoted to the attempt to predict group effectiveness and understand the nature of teamwork (1): for example, Fiedler (5) has demonstrated that the leaders of productive groups in a wide variety of different situations maintain a certain amount of psychological distance from their men while remaining acceptable to those men. At the United States Military Academy, Devlin and Rooney (4) found the psychologically distant squad leader to be effective *provided* he was at the same time held in high esteem by his squad members. From these studies, it appears that effective leadership (as demonstrated by effective squad performance) requires an interaction between certain personality characteristics of the leader and the manner in which the leader is perceived by his squad.

The interpersonal relationships among squad members may also be important in determining squad effectiveness. Productivity was found to be related to morale in Roethlisberger and Dickson's classical study (10), although this relationship has not always been clear and consistent (8). The skills and personality characteristics of the squad members are additional factors contributing to squad effectiveness; thus, the effectiveness of a squad, a crew, or a team depends on a number of factors including the skill of the leader and the group members, the personality characteristics of the leader and of the group, and the interaction between them. The current study represents an attempt to identify and measure some of these attributes and interactions which may be related to the effective performance of military squads.

In this attempt, leader and squad average scores on 12 variables relating to skill, aptitude, personality attributes and interpersonal relationships were analyzed so as to evaluate which attributes of the leader and the squad are related to effective squad performance (*a*) when the squad is led by a leader who is held in high esteem by his squad members, (*b*) when the squad is led

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by a leader who is held in low esteem by his squad members, (*c*) when the squad is made up of members who are held in high esteem by their peers, and (*d*) when the squad is made up of members who are held in low esteem by their peers.

B. Method

1. *Subjects*

The subjects were cadets who had completed their freshman year at the United States Military Academy. Their average age was 19 and they had met rigid academic, physical, and medical standards upon entrance into the Academy. Geographically, their homes of record are representative of the population density of the United States (12).

The summer session prior to the subjects' second academic year at the Academy was devoted to an eight-week period of encampment at Camp Buckner, West Point, where extensive instruction was given in military tactics and the use of weapons and equipment. At Camp Buckner the subjects lived in barracks-type buildings with approximately 36 men (one platoon of four squads) in each building. In all there were six companies, 18 platoons, and 72 squads. The living and training arrangements encouraged close personal interaction within the squads and platoons living in the same barracks. Therefore, we were able to obtain a variety of sociometric measures which will be described in detail later in the paper.

2. *Criterion*

At the end of the summer-training period each of the six companies selected five of its best squads to represent it in the Buckner Squad Stakes. The Stakes were practical field tests of knowledge and skills acquired in the five major areas of training: Armor, Artillery, Engineer, Infantry, and Signal. A given squad, consisting of eight to 12 men as required by the event, performed in only one of these five areas. Thus a total of 30 squads (one per company per event) performed in the Buckner Squad Stakes. Since each company was rated on the basis of the performance of these selected squads, competition was intense and motivation was high. The events, which required approximately one hour each for completion, were meaningful military tasks for a squad of men. For example, the Signal event required the setting up of a radio-communications net. The Infantry event was less structured. A plan was formulated for the squad to take an objective some distance away, and the squad was required to proceed to this objective, making use of appropriate cover and concealment and dealing with problems as they arose.

Performance was scored by experienced experts in each area on the basis of prearranged scoring schedules that included points for time, accuracy, knowledge, performance of critical subprocedures, and accomplishment of the task. These points were totalled to provide the performance score of the squad in its particular event. A more complicated set of derived scores was computed by selecting only the most-objective subscores (time, target hits), standardizing these scores, and then combining them without regard to any weighting scale based on their presumed importance. However, when these derived standardized scores were compared with the standardized scores given in the field, a rank-difference correlation coefficient of .90 ($N = 30$ squads) was obtained. Therefore, the scores given in the field (converted to standard scores by event) were utilized as the criterion of Buckner Squad States performance in all analyses.

In this study the effectiveness of the leader was assumed to be reflected in the effectiveness of his squad. Consequently, the performance of a squad in its particular event was used as the criterion of effectiveness for both the leader and the squad.

3. *Experimental Measures*

The following measures were selected as possible predictors of squad effectiveness:

a. Individual Stakes. On the same day that the Buckner Squad States were held the cadets were also tested individually for their skills and knowledge in Armor, Artillery, Engineer, Infantry and Signal procedures. The scores obtained in the five events were combined to provide an Individual Stakes Score. This score was used as an index of the individual skill and ability of the leaders and the squad members participating in the Buckner Squad Stakes.

b. Aptitude-for-the-service rating. Twice during the academic year at the USMA each cadet is rated according to "The rater's appraisal of each cadet's ability to command a group of men and in so doing accomplish the assigned mission while maintaining high standards of discipline, morale, esprit and administration" (2). These ratings are made by the company Tactical Officer and by cadet peers and upperclassmen in the company. The ratings are then combined and converted to standard scores. These scores are reliable (average of reported reliabilities on test-retest is .87) and provide the best single predictor of future efficiency ratings as an officer (2). The rating is considered an index of general aptitude and leadership potential. During the Buckner summer only the judgments of company peers entered in the ratings. The average reported product-moment correlations between these summer ratings and the usual ratings made during the academic year is .84 (2).

c. Squad-performance assessment. This schedule, prepared by the Medical Research Project, USMA, includes 16 items. Eight of the items relate to the squad leader (e.g., "Flexibility of leader" and "Leader's influence on squad"), and eight pertain to the squad (e.g., "Compatibility of members" and "Knowledge of squad tactics"). Each subject participating in the Buckner Squad Stakes was asked to indicate on a nine-point scale the degree to which these items described his squad and squad leader in comparison with other squads and squad leaders. A high score on the squad items of the Squad-performance-assessment test was considered to indicate high Esteem for Squad; on the leader items, high Esteem for Leader. The product-moment correlation coefficient between these two scores ($N = 269$) was .53.

d. Confidant choice. This adaptation of the sociometric technique was administered as proposed by Gottheil (7). In this approach, measures are obtained not only of the extent to which an individual is accepted by others (acceptance) but also of the extent to which he is accepting of others (acceptingness). The instructions were, "With which of the following men in your barracks would you be *more likely* or *less likely* to talk over a personal problem?" The subjects were given lists of the men in their barracks. Opposite the name of each man an X was to be placed in one of three columns headed "More Likely," "Less Likely," and "Can't Say." The number of acceptances and rejections each man received could then be calculated, as well as the extent to which each man accepted or rejected others. Since there was considerable variation in the number of competing squads from each barracks, the number of choices received by individuals in different platoons were not comparable; therefore, only the choices made by an individual (his acceptingness of others) were considered in the study. Three subscores were obtained: (*a*) More Likely, the number of men in the platoon accepted by an individual as more likely confidants; (*b*) Less Likely, the number of men considered as less likely confidants; (*c*) and Can't Say, the number of men in the platoon about whom a decision could not be made. A confidant-choice score was derived from these subscores by considering the choices as being on a continuum from acceptance to rejection. It was calculated by giving a weight of two to "More Likely," one to "Can't Say," zero to "Less Likely" and summing. The split-half reliability coefficients ($N = 100$), corrected for length, were .83, .80, .86 for these scores respectively. This test was included to provide an estimate of the individual's feelings of closeness to or distance from others as inferred from the number of individuals he perceived as likely confidants.

e. Task orientation and personnel orientation. These were sociometric measures. The subjects were asked to list the three men in the platoon whom they most respected for their ability to get a job done and the three men whom they least respected for their ability to get a job done. Their first choice

was given a weight of three; the second choice, a weight of two; and the third choice, a weight of one. Their least-respected choice was given a weight of minus three, and their next least-respected choices were given weights of minus two and minus one. An individual's task-orientation score was calculated by summing the weighted choices he received. The subjects were also asked to identify the three men in the platoon whom they considered most friendly and the three whom they considered least friendly. The personnel-orientation score was calculated in a manner similar to that for the task-orientation score. The split-half reliability coefficients ($N = 100$), corrected for length, were .94 and .81 for task orientation and personnel orientation respectively. The product-moment correlation coefficient between these two measures ($N = 182$) was .46.

f. Descriptive index. There were 24 items on this index. Each item was composed of a pair of contrasting adjectives that could be considered at the poles of a desirable-undesirable continuum, such as cooperative and uncooperative, stable and unstable, and bold and timid. The subject was asked to indicate on a six-point scale whether he considered himself more like one or the other of the pair of adjectives. The items were scored so that a higher score denoted greater desirability. A measure of self-esteem was obtained by taking the sum of his self-ratings on the various items. Similarly, he was asked to rate a hypothetical least-preferred co-worker and a hypothetical most-preferred co-worker. A self-satisfaction score was derived by taking the difference between the self-rating and the most-preferred co-worker rating. An assumed-similarity-between-opposites score was obtained from the profile difference between most-preferred co-worker and least-preferred co-worker scores. This was calculated by summing the squares of the differences between each of the 24 items in the two profiles being compared and taking the square root of this sum. The form of the descriptive index used followed that of Osgood's semantic differential (9); the method of profile comparison was that suggested by Cronbach and Gleser (3). Various forms of these scales have been extensively used by Fiedler and his associates, who have found them to be reliable and related to a variety of criteria of adjustment (5, 6). The assumed-similarity-between-opposites score has been described by Fiedler (5) as being unrelated to other commonly used personality tests or leadership ratings. It seems to measure an attitude toward others of *psychological distance*. The individual who clearly discriminates between his most-preferred and least-preferred co-workers appears to be one who is willing to reject a potentially poor co-worker. He is a person who is generally more analytic, self-sufficient, task oriented, extrapunitive, less conforming, and more decisive in his judgments of others. The product-moment correlation coefficient be-

tween least-preferred co-worker and ASO scores ($N = 182$) was found to be —.86. Since these two variables were also found to relate to other measures in a consistent fashion, only the least-preferred co-worker scores are reported.

g. Taylor Manifest Anxiety Scale. This test is a derived scale from the Minnesota Multiphasic Personality Inventory (13). It has been used widely as a measure of manifest anxiety.

h. Response to frustration. The Rosenzweig Picture-Frustration Study (11) is a projective technique designed to assess how individuals respond to frustrating situations. It was modified for use by the Medical Research Project. In this modification there are 25 items. Each item is composed of a verbal description of a frustrating situation, and the subject is requested to indicate his preference for one of three given response choices. The choices are of three kinds: (*a*) an extrapunitive response indicating action against or placement of blame on the frustrating agent or situation; (*b*) an intropunitive response indicating acceptance of blame or responsibility; and (*c*) an impunitive response indicating an avoidance of placing blame or responsibility. A response-to-frustration score was derived by considering the responses on a continuum from extrapunitive to intropunitive and calculated by giving a weight of two to an extrapunitive response, one to an impunitive response, zero to an intropunitive response, and summing. The split-half reliabilities ($N = 100$), corrected for length, were .59, .63, .47, and .46 respectively.

These were the test scores used in attempting to predict squad effectiveness in a variety of military field exercises. They were selected to provide the following information about each of the squad leaders: (*a*) his skill and aptitude; (*b*) his esteem for the squad members and general acceptingness of others; (*c*) the extent to which his squad considered him in high regard; (*d*) the extent to which members of his platoon considered him as friendly and able to get a task done; (*e*) certain personal attributes derived from self-evaluations, such as his own self-esteem, self-satisfaction, and critical attitude in judging others; and (*f*) psychological-test scores of his manifest anxiety and the manner in which he responded to frustrating situations. Similar information was obtained about each of the squad members. Their individual test scores were then averaged to provide squad scores. In attempting to predict squad effectiveness, leader scores and squad scores were considered separately and in combination.

4. *Procedure*

Most of the tests were administered on the day prior to the competition; however, the aptitude-for-the-service rating was obtained earlier in the summer, and the Taylor Manifest Anxiety Scale and the response-to-frustration test

had been given in September of the previous year. It was learned that some of the men present for the testing sessions were not in the squads selected to participate in the Buckner Squad Stakes, and some of the participants were not tested.

Of the 318 participants, 269 were present for the testing and 49 were not. Since 33 of the absentees were from the 5th Company, its squads were eliminated from any analyses concerned with group performance. The remaining 16 men who were not tested were randomly distributed through the other 25 competing squads. There were also a few absentees at the other testing sessions, so that the number of cases that appear in the various statistical analyses varies.

The criterion of performance was the score attained by a squad in its particular squad event. The same criterion was employed for evaluating both leader and squad performance. From this point of view, the effectiveness of a leader is reflected in the effectiveness of his squad.

C. Analysis of Results

1. *Analysis of Control Variables*

Before dealing with our test variables relating to personality attributes and interactional processes, we analyzed four other variables that could have affected the results in a systematic fashion. These variables were concerned with individual ability, aptitude, squad stability, and barracks type.

a. Individual Stakes. The total score of a subject in the Individual Stakes was taken as an index of his skill and ability for the kinds of tasks included in the Buckner Squad Stakes events. We found that neither the skill of the squad leader nor the average skill of the squad members, as measured by this index, were significantly related to the performance of the squad in the Buckner Squad Stakes. The product-moment correlation coefficient between the average score of the squad members on the Individual Stakes and the performance score of the squad in the Squad Stakes ($N = 25$ squads) was .01; between the score of the squad leader on the Individual Stakes and that of the squad in the Squad Stakes ($N = 23$), it was .19. The performance of a squad in a particular event, such as Armor, was then compared with the skill of the squad leader and the squad members in only the Armor portion of the Individual Stakes. This was also done for Artillery, Signal, and the other events. Again, no significant pattern of relationship was revealed. Thus, the performance of squads in the Buckner Squad Stakes was not related to the average skill of the squad members or to the skill of the squad leaders, as demonstrated in the Individual Stakes, whether the total scores or scores on the specific events were considered.

b. Aptitude-for-the-service rating. Neither the aptitude rating of the squad leader nor the average aptitude-rating score of the squad members was significantly related to the performance of the squad in the Buckner Squad Stakes. The product-moment correlation coefficient between Squad Stakes Performance and squad average Aptitude-for-service rating score ($N = 30$) was .01; between Squad Stakes Performance and squad-leader aptitude rating ($N = 30$), it was .13.

c. Squad stability. As an index to the stability in composition of the squads participating in the Buckner Stakes, the number of men in each competing squad who were members of the original basic squad at the start of the eight-week Buckner encampment was divided by the number of men in the competing squad. Thus, substitutions or additions to the basic squad would lower the stability score. The rank-difference correlation coefficient between Stability and Squad Stakes Performance ($N = 30$ squads) was .08. The companies had been instructed not to substitute men in the basic squads except for reasons of illness, and there was little variation in squad stability. In fact, in only two of the 30 squads were there more than two substitutes.

d. Barracks type. The cadets were housed in two structurally different types of barracks. There was an old type in which the latrines were at one end of the building and a new type with the latrines in the center (dividing the barracks into two compartments). Discussion with a number of cadets suggested that the structural division in the center of the barracks resulted in a barrier to communication and interaction across the division. Because this could systematically influence the sociometric scores relating to social interaction in the different platoons, squads from the two types of barracks were compared as to their Squad Stakes Performance. No significant relationship was found between performance and barracks type. The phi coefficient of correlation was .07.

In sum, individual skill, aptitude, squad stability, and barracks type (as measured in this study) were not related to performance in the Buckner Squad Stakes; furthermore, they were not found to be significantly related to each other. These findings may be due in large part to the restricted range in skill and aptitude represented in the sample under study. The cadets are of course a highly selected sample of young men. The competing squads were selected from among this restricted group, resulting in a further limitation in the represented range of skill and aptitude. If the squads and their leaders were matched in skill and aptitude to the extent that these factors were not significant in accounting for the differential performance of the squads, then perhaps greater emphasis and confidence could be attributed to the variables

relating to personality and interpersonal relationships in accounting for the differential performance of the squads. To the extent that competing teams are closely matched in skill and ability, teamwork becomes more important in determining outcome.

The question was raised as to whether the test measures could differentiate the squad leaders from the squad members within this restricted sample. A comparison between the mean scores of the squad leaders and the mean scores of the squad members on 11 of the 12 variables is presented in Table 1. They

TABLE 1
COMPARISON BETWEEN ATTRIBUTES OF SQUAD LEADERS AND SQUAD MEMBERS PARTICIPATING IN THE BUCKNER SQUAD STAKES

Measure	Mean score		p
	Leader[a]	Squad member[b]	
Individual stakes	170.23	161.06	.05
Aptitude-for-service rating	123.88	103.26	.01
Esteem for squad	60.28	59.55	N.S.
Confidant-choice score	32.40	31.79	N.S.
Task orientation	10.96	1.59	.01
Personnel orientation	2.52	1.05	N.S.
Self-esteem	119.04	114.62	.05
Least-preferred co-worker	60.52	65.52	N.S.
Self-satisfaction	4.40	4.92	N.S.
Taylor Manifest Anxiety	9.48	13.19	.05
Response-to-frustration score	17.77	17.94	N.S.

[a] $N = 23$ to 30.
[b] $N = 234$ to 284.

were not compared on the esteem-for-leader score. The squad leaders were found to have significantly higher scores than the squad members on Individual Stakes (skill and ability), aptitude-for-service rating (company peer ratings of general aptitude and leadership potential), task orientation (sociometric ratings by platoon members on ability to get a task done), and self-esteem (self-rating on the descriptive index), and significantly lower scores on the Taylor Manifest Anxiety Scale.

2. *Analysis of Predictor Variables*

The leader scores and squad average scores on the various attributes tested were correlated with the standardized performance scores of the squads in the Buckner Squad Stakes. Only two of these product-moment correlation coefficients ($N = 25$) were significant. These were the leader's esteem-for-squad score ($r = -.42$, $p < .05$) and the squad's esteem-for-leader score ($r = -.40$, $p < .05$). The question arose as to whether the technique of comparing performance across events could have masked existing relationships. Therefore,

rank-difference correlations were calculated between leader and squad attributes and squad performance within each event ($N = 5$ squads) and then averaged, but the results were similar to those obtained above.

The two correlations that were found to be significant suggested that Squad Stakes Performance was not associated with high esteem of the leader for his squad members nor with high esteem of the squad members for their leader, but with a more critical appraisal—neither being entirely accepting of nor satisfied with the other. It should be made explicit that when the terms high esteem and low esteem are used in this paper they are used in a relative sense only. The measures of esteem were derived from forced rankings or comparative ratings; thus, necessarily, some must be lower than others. A critical squad leader may hold his squad in low esteem according to these measures and still feel that the squad members are well motivated and effective.

Ten squads with leaders who were held in high esteem by their squad members and 10 squads with leaders who were held in low esteem by their squad members were then selected for study (two high and two low from among the squads participating in each of the five Buckner events). The criterion of leader esteem was the average of the ratings made by his squad members on the esteem-for-leader section of the squad-performance-assessment test. Rank-differences correlations were calculated between leader-attribute test scores and squad performance, and between squad average-attribute test scores and squad performance in the Buckner Squad Stakes, for the 10 squads with high-esteem leaders and separately for the 10 squads with low-esteem leaders. These correlations are presented in Table 2.

Among the squads with high esteem for their leaders, effective squad performance was related to the squad leader's being aloof or self-sufficient and perceiving few of the men as likely confidants ($\text{rho} = -.69$, $p < .05$) and tending to hold the squad members in low esteem ($\text{rho} = -.57$, $p < .10$). The squads of these high-esteem leaders performed more effectively when the squad members rated their hypothetical least-preferred coworkers severely ($\text{rho} = -.87$, $p < .01$), received low scores on task orientation ($\text{rho} = -.65$, $p < .05$) and tended to score low on anxiety ($\text{rho} = -.56$, $p < .10$).

Among the squads with low esteem for their leaders, effective squad performance was related to the squad leader perceiving few of the men as likely confidants ($\text{rho} = -.66$, $p < .05$) and tending to maintain his own self-esteem ($\text{rho} = .57$, $p < .10$) despite being held in low esteem by his squad members. The squads of these low-esteem leaders performed more effectively when the squad members were rated as friendly or personnel oriented ($\text{rho} = .66$, $p < .05$).

Thus, different attributes of the squad leader and the squad members were required for effective squad performance when the squad was led by a high-esteem leader and when the squad was led by a low-esteem leader. Shifting focus from the squad leader to the squad members, it would appear to be equally important to inquire as to which attributes of the squad leader and squad members promote squad effectiveness in squads made up of squad members who are held in high esteem by others and especially in squads made up of squad members who are held in low esteem by others.

TABLE 2
RANK-DIFFERENCE CORRELATIONS OF SQUAD PERFORMANCE WITH LEADER AND SQUAD ATTRIBUTES FOR HIGH-ESTEEM AND LOW-ESTEEM LEADERS

Score	Leader score Performance by squads of: High-esteem leaders	Leader score Performance by squads of: Low-esteem leaders	Squad score Performance by squads of: High-esteem leaders	Squad score Performance by squads of: Low-esteem leaders
Esteem for squad	—.57[a]	—.50	—.50	—.27
Least-preferred co-worker	—.09	—.44	—.87[c]	—.40
Confidant choice	—.69[b]	—.66[b]	—.49	—.48
Task orientation	.09	.37	—.65[b]	.27
Personnel orientation	.05	.26	—.38	.66[b]
Self-esteem	—.30	.57[a]	—.14	.12
Self-satisfaction	—.27	.13	—.25	—.47
Response to frustration	.12	.42	—.12	.31
Taylor Manifest Anxiety	—.10	—.28	—.56[a]	.08

[a] $p < .10$.
[b] $p < .05$.
[c] $p < .01$.

Ten high-esteem squads and 10 low-esteem squads were selected for study (two high and two low from among the squads participating in each of the five Buckner events). The criterion of squad esteem was the average of the squad-member scores on the aptitude-for-the-service rating (leadership potential or general aptitude as judged by company peers). Rank-difference correlations were calculated between leader-attribute test scores and squad performance and between squad average-attribute test scores and squad performance in the Buckner Squad Stakes for the 10 high-esteem squads and separately for the 10 low-esteem squads. These correlations are presented in Table 3.

Among the high-esteem squads, effective performance was significantly related to the squad leader holding the squad in low esteem, the squad members holding the squad in low esteem, and the squad members perceiving few of the men as likely confidants.

TABLE 3
RANK-DIFFERENCE CORRELATIONS OF SQUAD PERFORMANCE WITH LEADER AND SQUAD ATTRIBUTES FOR HIGH-ESTEEM AND LOW-ESTEEM SQUADS

Score	Leader scores Squad performance of: High-esteem squads	Leader scores Squad performance of: Low-esteem squads	Squad scores Squad performance of: High-esteem squads	Squad scores Squad performance of: Low-esteem squads
Esteem for squad	—.71*	—.18	—.64*	—.20
Least-preferred co-worker	.04	—.10	—.01	—.49
Confidant choice	—.52	—.38	—.64*	.37
Task orientation	.30	.08	—.48	—.05
Personnel orientation	—.43	—.12	—.25	.37
Self-esteem	.01	—.03	—.26	.45
Self-satisfaction	.36	—.08	—.36	—.14
Response to frustration	.31	—.18	.44	—.23
Taylor Manifest Anxiety	.40	—.66*	.15	—.77*

* $p < .05$.

Among the low-esteem squads, effective performance was significantly related to the squad leader receiving a low score on the anxiety test and to the squad members scoring low on anxiety.

D. Discussion

In several respects the Military Academy provided a favorable setting for this study of small-group effectiveness. The squads of cadets were comparable in age and education and in the relevant training and experience they had gained during the eight-week encampment prior to the Buckner Squad Stakes. The criterion performance involved meaningful tasks scored by experienced observers on the basis of prearranged scoring schedules. Competition in the annual Buckner Stakes is traditionally intense, and motivation runs high. However, certain limitations should also be noted. The competing squads and their leaders represented a highly restricted sample. The cadets are a select group of young men. From this group, the best squads were chosen by their companies to represent them in the competition. The squad leaders were selected from among the men in these selected squads. At each stage in this selection process there is a great degree of restriction in the range of abilities and aptitudes represented in the sample under study, so that differentiation among these highly selected leaders and squads becomes difficult; and generalization of the findings to other groups requires caution. Despite this restriction in range, the squad leaders could be differentiated from the squad members on a number of characteristics commonly accepted as desirable leadership traits.

In the attempt to predict squad effectiveness, the following factors were considered: task skills of the leader and the squad members, personal characteristics of the leader and the squad members, whether the leader was held in high esteem or low esteem by his squad members, whether the squad members were held in high esteem or low esteem by their company peers, and how the leader and squad members perceived the other members of their squad. Leader and squad average scores on these variables did not generally predict squad effectiveness until they were considered in combination.

When the personal characteristics of the squad leader were considered in relation to how this leader was perceived by his squad members, a number of interesting relationships were noted. Among squads with high esteem for their leaders, effective performance was related to the leader's being aloof or self-sufficient (perceiving few of the men as likely confidants) and tending to be critical of his squad. This is in keeping with the previous findings of Devlin and Rooney (4) and Fiedler (5, 6) that squad effectiveness is related to the leader being psychologically distant *provided* he is also esteemed by his squad. Effective performance was also found to be related to the squad members of such a leader scoring low on task orientation, being critical of ineffective co-workers, and tending to score low on manifest anxiety. Among squads with low esteem for their leaders, effective performance was again related to the squad leader being aloof and selecting few of the men as confidants and tending to maintain his own self-esteem despite being held in low esteem by squad members. The squads of these low-esteem leaders performed more effectively when the squad members were rated as friendly rather than critical.

The composition of the squads with regard to whether the squad members were held in high esteem or low esteem by other company peers was then considered. Among squads made up of high-esteem squad members, effective performance was found to be related to the squad leader holding the squad in low esteem and to the squad members holding the squad in low esteem and perceiving few of the men as likely confidants. This was a surprising finding as it has been anticipated that more-cohesive squads with high mutual esteem would be more effective. It may be that these measures were not reflecting a lack of cohesiveness, esteem, or morale in absolute terms; but were discriminating from among relatively cohesive squads: those consisting of squad members who were more self-sufficient, critical, and less easily satisfied. The squads had of course been initially selected as being made up of squad members who were generally held in high esteem. Among the squads made up of low-esteem squad members, effective performance was related to the squad leader and the squad members receiving low scores on manifest anxiety.

These squads presumably function more adequately when they are less apt to be tense or easily upset despite being held in low esteem by others.

Thus, different attributes of the squad leader and the squad members were required for effective squad performance when the squad was led by a high-esteem leader, when the squad was led by a low-esteem leader, when the squad was made up of high-esteem squad members, and when the squad was made up of low-esteem squad members.

E. Summary

Following eight weeks of summer military training, 30 squads of U.S. Military Academy cadets were selected to compete in practical field exercises in the five areas of training: Armor, Artillery, Engineer, Infantry, and Signal. Six different squads participated in each of the five events. The criterion of performance was the standardized score of a squad in its event.

In attempting to predict squad effectiveness, both leader and average squad member scores were considered on 12 variables relating to skill, aptitude, personality attributes, and interpersonal relationships.

Squad performance was not found to be related to measures of individual skill and aptitude of the squad leaders or squad members. Thus, the variables relating to personality and teamwork appear to assume greater importance.

Leader and squad average scores on personality and interpersonal variables did not generally predict squad performance until the interaction between leader and squad attributes were considered. Ten squads with leaders held in high esteem by their squads and 10 low-esteem leaders were selected (two high and two low from each event). Squads of high-esteem leaders performed more effectively when the leader was self-sufficient (perceived few of the men as likely confidants) and the squad members were low on task orientation and were critical of ineffectual co-workers. Squads of low-esteem leaders performed more effectively when the leader was self-sufficient and the squad received high sociometric ratings on friendliness.

Ten high-esteem and 10 low-esteem squads were selected according to peer ratings. High-esteem squads were more effective when the leader scored low on esteem for squad and the squad scored low on self-sufficiency and esteem for squad. The low squads were more effective when the leader and the squad scored low on anxiety.

Thus, the attributes of the leaders and squad members required for effective squad performance varied with the extent of leader and squad esteem.

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JAPANESE VALUES AND THE DEMOCRATIC PROCESS*[1]

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A. Introduction

Japan has undergone one of the most dramatic political metamorphoses in modern history. For centuries prior to the end of World War II it was ruled by a succession of shoguns, military cliques, and dictators whose common underlying assumption was that the government should be obeyed—not necessarily understood. Since 1947, the country has been nominally democratic with a constitution modeled after those of the West that presupposes a fundamentally changed orientation toward political and governmental processes. The rights of individuals and local groups to protest, petition, and assemble are guaranteed. A free, privately owned press has been established. The new constitution in contrast to the old implies that governmental processes should be influenced by an informed and understanding electorate.

It is therefore a legitimate question to ask, "Have the Japanese at the grass roots reorganized their pattern of values and attitudes from one of deep deference toward and ready acceptance of authority to one characterized by a willingness to express responsible opposition and to take local initiative?" On a gigantic scale Japan represents an effort to change attitudes, albeit an effort that was not deliberately planned as such.

The case of Japan is different from the German situation with respect to the forceful suppression of dissenting minorities, which in Germany were vigorously persecuted and liquidated. Benedict (1) pointed out that the authoritarianism of Japan was based on a pervading sense of the inevitability and essential rightness of hierarchy.

> The Japanese (prior to 1945) rely upon old habits of deference set up in their past experience and formalized in their ethical system and their etiquette. The State can depend upon it that, when their Excellencies function in their "proper place" their prerogatives will be respected, not because the policy is approved, but because it is wrong in Japan to override boundaries between prerogatives (1, p. 86).

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It is important for our purposes to note that in the Meiji era the *tonari gumi*—small groups of 10 or 15 families loosely organized in rural and semi-rural areas to deal with their own affairs—were abolished. The central government via directives to its local bureaucrats apparently reached down even to this level.

Prior to World War II, the *tonari gumi* were re-established, functioning, however, largely in matters of rationing and relief under formulas handed down from higher authority. Consequently the Japanese, although experienced in dealing with local matters under guidance, have had no extended tutelage with those processes of initiating proposals at grass-roots levels and drawing the attention of higher authorities to local issues, inequities, and injustices. To do so would have, in Benedict's words, "transcended the boundaries of prerogatives." Thus, respect for the wisdom of those above them stifled interest in dealing with local matters on their own initiative or focusing a public opinion on national issues. In Reisman's terms they were other directed with a vengeance: deferent to authority and willing to accept orders supinely, avoiding conflict, and taking upon themselves major responsibility for errors (exemplified in extreme cases by that nearly unique practice of harikari).

In an effort to probe Japanese values after a period of some 15 years experience under the democratic constitution, a research study was mounted having two prongs: one behavioral, the other attitudinal. First, we explored the value patterns of Japanese college students with the Edwards Personal Preference Schedule for which comparable American norms were already available. Second, we interviewed officials in 50 villages and small cities concerning the organization and duties of volunteer firemen. The latter were compared with data obtained from 58 volunteer companies located in New Jersey.

In selecting fire-fighting organizations as an example of local initiative and local responsibility we were mindful of the special fire hazards in Japanese villages where the houses are more inflammable and closely spaced as compared with conditions in American communities. However, in both cultures fire protection is by its very nature a local problem calling upon local resources. Presumably, effective fire-fighting methods in one culture are equally appropriate in another. However, were the organizational features in one culture more or less democratic than in the other? We wondered whether the Japanese, given the opportunity to organize themselves at the local level to deal with a local problem requiring little or no coordination with higher levels in the political hierarchy, would gravitate toward the traditional rigidities in organizational form and process or (on the contrary) would they

"spontaneously" adopt procedures similar to those found in the United States? The purpose of this article is to present the findings of these studies and to discuss their psychological and political implications.

B. Edwards Personality Preference Schedule

The E.P.P.S. contains measures of 15 social needs as originally defined by Murray *et al.* (9) and consists of 225 forced-choice items. The Schedule was translated and revised for Japanese-student populations according to methods described elsewhere (3). Although the Japanese version is different from the American version in some minor respects, the intercorrelations (which were generally low) among the 15 needs were remarkably like those found in an American sample. The correlation of the social desirability of an alternative with the probability that a given alternative is actually chosen was shown to be .40 (4) for the American version and .37 for the Japanese version. By these and other means the two versions were tested statistically and found to be satisfactory for the purpose of making gross transcultural comparisons.

The Japanese college students responding to the E.P.P.S. were drawn from five colleges and universities located in Tokyo, Kyoto, and Hiroshima and were approximately equally divided between men ($N = 458$) and women ($N = 504$). The American data are those presented by Edwards (5) as the normative sample.

Comparative scores on the E.P.P.S. for Japanese and American college students are given in Table 1 and show that the Japanese men score lower on achievement, deference, and dominance, but higher on abasement, change, and endurance. Translating these labels into descriptions based on the items making up these categories, the Japanese male students are *less* interested than American counterparts in (*a*) solving problems others have found difficult, (*b*) being recognized as an authority in some special field, (*c*) accomplishing something of great significance (achievement). They are less interested also in (*d*) accepting the leadership of people they admire, (*e*) conforming to customs, (*f*) reading about the lives and thinking of great leaders (deference). Their lower dominance shows in *not* preferring (*g*) to accept leadership positions on committees or other organizations, (*h*) to defend one's point of view when attacked, (*i*) to settle disputes, or (*j*) to persuade and influence others.

On the other hand, the Japanese male students report that they, more than Americans, (*a*) accept blame personally when things go wrong, (*b*) feel

inferior to others, (*c*) feel better when they give in to avoid a fight rather than force their own way (abasement). They, more than Americans, (*d*) like to experience novelty and change, (*e*) like to meet new people, (*f*) like to move about the country and live in different places (change). They also prefer to (*g*) work hard, (*h*) complete one job before taking on another, and (*i*) avoid interruptions in their work (endurance).

TABLE 1
MEANS OF THE E.P.P.S. VARIABLES

Need	College men		College women	
	Japanese ($N = 458$)	American ($N = 760$)	Japanese ($N = 504$)	American ($N = 749$)
Achievement	12.65	15.66*	12.23	13.08*
Deference	10.08	11.21*	11.24	12.40*
Order	10.73	10.23	10.57	10.24
Exhibition	10.17	14.40	10.03	14.28
Autonomy	15.23	14.34	14.97	12.29
Affiliation	15.08	15.00	16.31	17.40*
Intraception	16.05	16.12	18.15	17.32
Succorance	15.09	10.74	15.71	12.53
Dominance	12.49	17.44*	11.56	14.18*
Abasement	16.31	12.24*	17.67	15.11
Nurturance	13.04	14.04	13.43	16.42*
Change	16.19	15.51*	17.08	17.20
Endurance	16.49	12.66*	16.63	12.63*
Heterosexuality	17.35	17.65	12.48	14.34
Aggression	13.05	12.79	11.93	10.59

* Difference significant beyond the .01 level.

The Japanese women compared to American college women show much the same pattern—lower on achievement, deference, and dominance; and higher on endurance, although their scores on abasement and change are about equal to those for Americans. In addition they score lower on affiliation and nurturance. These latter two labels refer to preference for making and maintaining strong attachments with friends (affiliation) and assisting or sympathizing with others less fortunate (nurturance).

If we confine the discussion for the moment to the data on the men, it is clear that (except for the categories of deference and change) the values appear to conform with the stereotype of the Japanese general population as revealed by their cultural and political history. The pattern of self-abasement, an unwillingness to accept leadership responsibility, a capacity for hard work, and a low level of personal aspiration appear to mesh with the structure of grass-roots society that characterized Japan prior to World War II. The deference and change categories are in marked contrast.

Persons intimately acquainted with the Japanese have suggested that

especially among the students (during the period of this study) there existed a faddish preoccupation with rejecting tradition and what in Japan is often called feudalistic concepts.[2] The rejection appears to be more verbal than behavioral and appears, furthermore, to be one avenue through which students can express their new-found independence and the spirit of the new Japan. To some extent, rejection of "feudalism" may be not unlike the radical liberalism that at times sweeps American collegiate populations. It has been a common observation in America that the extreme liberal students often gravitate toward more conservative views as they attain maturity in their postcollege reference groups. It is possible that the higher scores in both the change and deference categories observed among the Japanese may be accounted for by these conditions which appear to be somewhat temporary, although time may prove this judgment incorrect.

In addition to scoring as the men do on achievement, deference, and dominance, the Japanese college women score lower than their American sisters on affiliation and nurturance. These categories appear to have little direct relevance to political behavior. Both suggest that the women prefer to avoid involvement at the personal level with others. (They are also lower in heterosexual interests and higher on autonomy but not significantly so.) Perhaps these scores are a reflection of a condition one can observe throughout Japan which can be best described as a steep negative gradient in concern with matters lying outside the home. The typical Japanese home is spotlessly clean and well ordered. Leaving one's shoes at the entrance is but one of the customs that emphasizes this fact. The traditional daily bath and the immaculate personal grooming of all but the very lowest laborers further accents the concern with self. However, as one looks beyond the garden wall he is struck by the contrasts as evidenced by rubble heaps, the cluttered drainage ditches, the grime of unswept public buildings, litter on trains, and dusty streets which even the rains seem unable to clean. Although these matters are not alone under the control of the female segment of the population they do suggest that the Japanese give these public problems markedly less attention than their immediate personal environment. This lack of interest in and action directed toward the common-community welfare perhaps stems psychologically from low preferences for nurturance and affiliation especially noted in the college women. (College men also score lower on nurturance but not significantly so.) These scores and unsystematic general observations bespeak a preference for personal insulation from community matters. If this

[2] I am especially indebted to Dr. Shin-ichi Takezawa of Rikkyo University for this insight.

is true, then one could *not* interpret these symptoms as favorable for the development of the kind of democratic processes that characterizes the United States.

C. The Volunteer Fire Companies

Some confirmation of this inference was found in our comparison of volunteer fire companies in both Japan and the United States. The differences in organizational structure are revealing. The typical American village-fire company is one that has been organized by a few men taking the initiative to pool their personal resources and raise additional funds by solicitation. Gradually they accumulate equipment, build a fire house, and enlist new members running up to 30-50 men with token assistance from municipal budgets. To a very large extent they are autonomous organizations dedicated, however, to protecting their communities from fire damage. The members pay dues, expend their own time, soil their own clothes, use their own cars, all without direct compensation to themselves.

The fire company of a Japanese village, although manned by "volunteers" is typically an arm of the municipal services supported by tax monies that are expended partly to pay the members a small annual stipend and partly to maintain or buy equipment and provide for one or more fire stations. A national law specifies the number of firemen, pumpers, and hose nozzles that every community ought to have as a function of the population density, the nature of the building construction, and the average annual wind velocity. Formulas also exist for granting to resort communities specified amounts of national aid based on the flow of transient population. A clerk is required by the national fire law to be assigned by the municipal government to maintain records of personnel (who may number up to 500-600 men) fire calls, extent of damage, and expenditures.

These differences suggest that the Japanese villagers presumably accept a much closer guidance over their local affairs than is true in the United States. On the other hand the national government may believe that the local leaders do not possess the necessary foresight, initiative, or interest to manage their fire-protection services effectively. Since these interpretations are not mutually exclusive, it is possible that elements of both are true. In any event, it appears that less autonomy is exercised at the community level with respect to fire protection and probably in other respects than is evident in the United States.

Another contrast appeared in the comparison of American and Japanese village-fire companies. The American units contained two hierarchies: one involved in the fire-fighting activities and consisted of a chief, deputy chief,

lieutenants, driver engineers, etc.; the other, a maintenance hierarchy starting with a president, vice-president, secretary, treasurer, and a roster of committee chairmen. The more effective companies (as judged by five persons acquainted with their operations and performance in a fire school) were those in which the offices of the two hierarchies were distributed more widely over the membership than was true of the least effective companies, as shown in Table 2. The table shows a steady increase in the number of persons holding

TABLE 2
AVERAGE NUMBER OF PERSONS HOLDING OFFICES IN FIRE-FIGHTING AND MAINTENANCE HIERARCHIES

Parameter	Company rating A* ($N = 16$)	B ($N = 12$)	C ($N = 12$)	D** ($N = 17$)
Average per company	.73	.83	1.00	1.24

* High.
** Low.

offices in both hierarchies as their rated effectiveness declines. Other data analyzed more completely elsewhere (2) led to the conclusion that the observations given in Table 2 could not be attributed to either a larger pool of leaders or larger average membership in the A-rated or B-rated companies. Men in the most effective companies who held supervisory posts in their regular occupations were *less* likely to be officers in the fire company. It appeared that the effective companies were those with greater flexibility in the roles assumed by their members. This means, for instance, that at a fire, the chief or even one of the lieutenants may direct the president to perform certain tasks. At the monthly business meeting, it is the president's prerogative to issue the orders rather than accept them. This flexibility in status and role appeared to be related to the effectiveness of the organization in the United States.

In Japan the two hierarchies do not exist. The fire organization typically was headed by a chief, his deputy chiefs, a number of geographical division captains, and so on. The chief not only directed operations at the fire but was the presiding officer at meetings, and the point of contact with the municipal government, public, and higher levels in the Prefecture office. The chief was ordinarily elected by the other officers of the company and was invariably a person prominent in other aspects of the community life. In most cases the chiefs were prominent politicians (although we never found a mayor serving also as fire chief), professional persons, or leading business men. We were told that the chief is often selected either because he has

demonstrated his ability elsewhere to organize and lead a group or because he is the best educated person in the area. Although some had served an "apprenticeship" as a lesser officer in the company, only three out of the 50 had risen "from the ranks." In other words, position in the community hierarchy had a great bearing on becoming the fire chief, almost regardless of the individual's experience in or knowledge about fire fighting.

Translated into role-flexibility terms these data suggest that the Japanese are less flexible than their American corresponding numbers both with respect to the complexities of the structure and with respect to the selection of their leaders.

D. Implications for Democratic Processes

It has never been established empirically that the personal values of a population have any relevance to their political behavior. However, on *a priori* grounds it appears reasonable to expect that a population's predispositions for accepting social responsibility, for personal autonomy, or for public debate would have relevance to their governmental procedures. One finds in reading between the lines of many political scientists (7) assumptions of this sort which have never been put to a cross-cultural test. It is of some historical interest to recall that deTocqueville in 1835 made the following observation:

> Amongst the novel objects that attracted my attention during my stay in the United States, nothing struck me more forcibly than the general equality of conditions. I readily discovered the prodigious influence which this primary fact exercises on the whole course of society: it gives a certain direction to public opinion, and a certain character to the laws; it imparts new maxims to the governing powers, and peculiar habits to the governed. I speedily perceived that the influence of this fact extends far beyond the political character and the laws of the country, and that it has no less empire over private society than over the government: it creates opinions, engenders sentiments, suggests the ordinary practices of life and modifies whatever it does not produce (*London and Westminster Review,* October, 1835).

Although we are now in a position to make some cross-cultural comparisons of a psychological kind as this and other studies demonstrate, we have no systematic means of quantifying the governmental processes which might, for instance, place a government somewhere on a scale running from totalitarian to town-meeting democracy. The absence of such a government index prevents us from being as rigorous in drawing inferences as would otherwise be the case. With this caveat, let us proceed.

As indicated in the previous section, the evidence from the students (although different in kind from the fire-company data) nevertheless converges on a general inference that the Japanese become ego involved with community affairs less readily than do Americans. The students are less interested than Americans in assuming leadership positions, and in providing help and assistance to their friends. The volunteer fire companies have shown less initiative and autonomy than their American counterparts and appear to have been directed from the upper levels of the hierarchy to organize themselves in specific ways; this, in spite of the fact that the fire danger is one that is controllable only by local means and would seem to be a threat having direct personal consequences. If a community problem of these dimensions does not stimulate strong local initiatives, it is difficult to conceive of one that would. Nevertheless, the Japanese villages and small towns appear to have been dependent upon higher authority to give them guidance if not more direct orders.

The greater self-abasement found among the students is likewise a symptom that suggests the Japanese are less likely than Americans to question the directives that come down through a chain of command. One of the features of the democratic process is just such evaluation of policies and operations which permit those in authority to shape their actions in accord with the wishes of the governed. If the people at the base of the hierarchy fail to express themselves, an important strength of the democratic procedures is lost.

In this connection McGinnies (8) has reported that Japanese and American college students endorse the following statement with about the same frequency (77 per cent): "Any private individual should have the right to criticize any government or governmental official anywhere in the world." The inference from McGinnies' data therefore, appears to run counter to those presented herein. Perhaps the last phrase of the statement "anywhere in the world" rather than "in our country" leaves the statement sufficiently broad in scope to erase a tendency (if it exists) to avoid criticism of one's own reference group.

It is also relevant to call attention to the general conclusions of McGinnies' study comparing Japanese and Americans on a number of civil-liberty issues. In general the Japanese appear to voice greater concern over censorship, freedom of speech, fair-employment practices, and the like than their American counterparts. The Japanese are the more liberal, although the differences are not as great as those found in previous studies by Remmers and Radler (10) or Kato (6).

The apparent disagreement between McGinnies' data and the E.P.P.S. findings reported herein can be resolved if one assumes that the civil-liberties responses of the Japanese are a reflection of their lower deference toward authority. Freedom from censorship and other forms of hierarchical controls appear to be more closely related to deference than to any of the other categories in the Edwards Schedule, and it was on this category that the Japanese scored lower than American students. In the previous discussion we tended to minimize the importance of this finding for the long run as a phase through which students in both countries seem to pass toward more conservative views.

It would have been a major miracle if the Japanese had been able to overturn their traditional value system as rapidly as the governmental structure was changed. The Emperor's directive to collaborate with the Occupation Forces and the subsequent adoption of the democratic constitution were in accord with the traditional orientations toward authority. It is in this one area that the Japanese appear to have made some modification in their value system, although we have no precise data on this point at an earlier time. The major thrust of the data suggests that traditional Japanese values still persist which provide only weak psychological support for the democratic processes as they are practiced in the United States. It is therefore a mistake to believe that the Japanese political and governmental operations, although outwardly similar to our own, are basically "westernized."

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LANGUAGE USAGE AND SOCIAL MATURITY AS RELATED TO SUICIDE NOTES*

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A. INTRODUCTION

The suicide note, presumably the individual's last-recorded verbal expression, presents a promising area for investigation since the note is essentially a projective product; i.e., no request was made of the person to produce the note, and there were no norms to guide him about its content. Most commonly, the suicide note has been examined for clues regarding the events leading to or precipitating the act, but in recent years there has been greater emphasis on exploring the motivation, thoughts, feelings, and personality dynamics of the suicidal person. For example, Shneidman and Farberow (12) studied genuine and simulated suicide notes for indications of emotional and ideational state. Osgood and Walker (10) analyzed the same notes as well as others for verbal stereotypy, disorganization, directive state, and conflict. And Tuckman, Kleiner, and Lavell (14) investigated affect in genuine notes.

Another way of analyzing suicide notes is to look for clues regarding the individual's social maturity. Piaget (11), based on his investigations of the verbal productions of children at different age levels, has conceptualized the development of human language as paralleling social development. When a child first learns to differentiate himself from others, he begins to use the personal pronoun "I." As the child gains greater social maturity as shown by a greater concern for the existence of others, a greater sensitivity to their needs, and a greater ability to interact with them on a mature social level, he begins to use other pronouns. Accordingly, there is a shift in emphasis from the use of self-reference words that exclude others, such as "I," "me," and "mine," to self-other reference words that refer to self plus others, such as "we," "our," "us," to other reference words that exclude self, such as "you," "they," "she," and "he." The relationship between the use of different types of personal pronouns and the level and pattern of social development has also been demonstrated by other investigators: e.g., Berg and Adams (1), Berne (2), Conrad and Conrad (3), Fairbanks (4), Goldman and Eisler

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(5), Gottschalk (6), Lorenz and Cobb (8), Mann (9), and Werner (15).

The present study attempts to extend and refine Piaget's method of analysis of speech patterns in children to suicide notes. The background of the suicidal person is characterized by marital conflict of the parents and by emotional deprivation, neglect and rejection in childhood—factors that tend to create an emotional environment unfavorable for personality growth and social development (13). This suggests the hypothesis that suicide notes will reflect social immaturity: i.e., a greater emphasis on self-reference than on other-reference pronouns. Suicide notes, genuine and simulated, appeared to present a suitable means for testing the hypothesis.

B. Procedure

The notes used in this study were those originally analyzed by Shneidman and Farberow (12). They consist of 33 genuine and 33 simulated suicide notes written by native-born white Protestant males 25 to 59 years of age, paired for age (within five years) and occupational level. For each note, a word count was made of the number of self-reference, self-other reference, and other-reference pronouns. The number of nonpronouns (i.e., the remaining words in the note) were also counted. Then, comparisons were made between the genuine and simulated notes with respect to the distribution of the pronouns and nonpronouns.

C. Results and Discussion

The data in Table 1 show no difference between the genuine and simulated notes with respect to the distribution of self-reference, self-other reference, and other-reference pronouns. There was also no difference with respect to the mean proportion of the combined self-reference and self-other reference pronouns to the total number of pronouns or with respect to the variability of

TABLE 1
Distribution of Pronouns in Genuine Notes and Simulated Notes*

Type of word	Genuine notes ($N = 33$)		Simulated notes ($N = 33$)	
	Number of words	Per cent of total	Number of words	Per cent of total
Pronoun				
Self-reference	300	9.7	194	9.1
Self-other reference	15	.5	22	1.0
Other reference	194	5.7	97	4.5
Nonpronoun	2853	84.1	1829	85.4
Total	3394	100.0	2141	100.0

* $\chi^2 = 3.7$, $df = 2$, $p > .05$. (To compute chi square, self-reference and self-other-reference pronouns were combined.)

the means. The self-reference and self-other reference pronouns were combined because the number in the latter category was very small. The mean proportion of self-reference pronouns to total pronouns was .65 (with a standard deviation of .20) for the genuine notes and .75 (with a standard deviation of .17) for the simulated notes. There was also no difference between the two sets of notes in total word output ($z = 1.54$ $p > .06$). The mean was 102.8 (with a standard deviation of 89.4) for the genuine and 64.9 (with a standard deviation of 55.6) for the simulated notes. The Wilcoxon signed-ranks test was used because of the marked skewness of the distributions (7).

The data do not support the hypothesis that persons who commit suicide show social immaturity, as measured by the distribution of personal pronouns in the suicide note. The lack of difference between the genuine and simulated notes may be due at least in part to the effects of the simulated situation; i.e., the individual was asked to produce the suicide note that he would write if he were planning to commit suicide. The structuring of the situation in this way may have created considerable anxiety which is reflected by as much emphasis upon self-reference pronouns as that found in the genuine note. It would be desirable to test the hypothesis further in a less-contrived situation.

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SOCIAL CONCERN, BODY SIZE, AND BIRTH ORDER* [1]

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A. INTRODUCTION

Seemingly innumerable popular articles in both magazines and newspapers attest to the fact that people are concerned about their physique and appearance. Although those articles dealing with diet and exercise may attempt to give these concerns overtones of health and medical necessity, the ones on clothing, style, hair care, etc., make it abundantly clear that the primary motivation is one of social approval. People wish to conform to the social norms, rules, or stereotypes of good appearance. Indeed, much of contemporary advertising would have us believe that proper appearance is the *sine qua non* of even the most-meager sort of social respectability or worldly success. One aspect of concern for the proper social appearance, though frequently mentioned in the popular literature, has been neglected in the psychological literature; i.e., there has been little recent research concerning peoples' stereotypes of "good figures" and body images. Jourard and Secord (4) have plainly demonstrated that people do have cultural stereotypes and that they use these to evaluate satisfaction with their own physiques; i.e., they have proper "body cathexis" when their own dimensions match these ideals.

Calden, Lundy, and Schlafer (2) in their investigation of parametric differences in male and female attitudes concerning body types, found that men desire larger dimensions. They wish to be taller, have broader chests and shoulders, and have more musculature. Women, on the other hand, would prefer to be smaller in all dimensions except bust size. As the authors point out, these findings are in accord with the popular common-sense interpretations.

Although not explicitly discussed in either of the two preceding studies, undoubtedly there are individual differences in definitions of an ideal body type and in concern over not possessing an ideal figure. People who are high in social concern should be more attentive both to the appropriate social

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standards and to their own dimensions than people who are not high in social concern. When they find these two sets of measurements out of agreement, this discrepancy should be particularly bothersome. Consideration of mechanisms of perceptual defense and cognitive distortion would lead to the prediction that those most concerned about their figures would be most likely to distort reports of their own physique to conform with an ideal. Paradoxically, the same high level of social anxiety that would enable them to predict accurately the ideal stereotype and to know accurately their own dimensions would also lead them to falsify and misreport them.

There is no simple way to isolate the socially anxious from the nonanxious, yet one variable that suggests a concerned-unconcerned dichotomy is ordinal position of birth in family. Schachter (6) and his associates have shown that in a variety of situations first-born children are more anxious than later-born children; and when anxious the former wish to affiliate more than the latter. They tend to be more influenceable (3), more socially dependent (6), seek to compare themselves with others in order to obtain a social evaluation of their opinions (5), and conform more in an Asch-type situation (1). These findings when extrapolated suggest that in any situation in which social concern is involved first-born children display a greater fendency to seek social approval and display more anxiety than others over deviation from normative expectations. A test of these suggestions is provided by an experiment conducted as part of a series of studies (7) that tested, in part, the relationship between the ideal set of measurements reported by female students, self-estimates of their dimensions, and their actual measurements.

B. Method

Ninety-three female students, freshmen and sophomore volunteers from introductory-psychology classes at The Pennsylvania State University, served as subjects. (Students routinely volunteer for experimental participation in fulfillment of their course requirements.) The *S*s were scheduled in five groups of about 20 and were met as a group by an experimenter and her assistant. The experimenter informed the *S*s that they were participating in a study gathering normative information about health and medical practices and attitudes of female students. She told the *S*s that their task would involve completing a questionnaire, the "Health and Somatic Variable Survey," and directed her remarks toward a manipulation of the sample into "aware" and "unaware" groups.

"Unaware" group. The experimenter told three of the groups that although their participation would consist of merely filling out a questionnaire, she

would like to interview them individually about some other medical information. Therefore, sometime during the evening, as they were filling in their forms, she would call them from the room one at a time for interviews.

"Aware" group. The experimenter told two other groups that in addition to the questionnaire information, their measurements were to be taken: their heights, weights, and other measurements would be individually assessed at some time during the experimental session. She told them that they would be called upon one at a time and taken to a private room where the measurements would be made.

The experimenter distributed the questionnaires, which consisted of a six-page inventory containing some dummy questions (e.g., "List the foods which you ate yesterday") which had been inserted for credence and padding. On the first page was a critical question asking *Ss* to report their dimensions fully clothed. On the second page was another critical question that asked the *Ss* to report the dimensions of the ideal-female figure. Self-estimates and ideal reports were made for eight dimensions—height, weight, bust, waist, hips, neck, wrist, and ankle. The *E* allowed time for *Ss* to start on the questionnaire, then she summoned them individually from the experimental room into a second room. There the *E* measured and recorded the *S*'s height, weight, and the six other dimensions; (the measurements were made with the *S* fully clothed). After being measured, *Ss* were taken to a third room to complete their questionnaires: once they left the main experimental room to be measured, the "unaware" *Ss* never returned to the first room. The *Ss* were instructed not to speak and a proctor remained in the first room to prevent discussion of the questionnaire.

Before leaving the experiment, *Ss* filled in an awareness-rating form. The form contained the question, "Did you think you might be measured?" Below this was a line 100 millimeters long, anchored at one end with the phrase, "I was completely sure I would be"; and at the other, "I had no idea that I would be." *Ss* completed the form by placing a checkmark upon the line.

C. Results and Discussion

The experimental manipulation was successful; girls in the "aware" condition reported that they had expected to be measured; girls in the unaware condition reported that they had not. On the one hundred millimeter scale (100 = no awareness, zero = complete awareness), the mean of the "aware" group ($N = 44$) was 82.63, of the "unaware" group ($N = 49$), 32.18. The difference yields a t of 2.73, significant at the .01 level.

The results demonstrating the existence of a stereotype, reported in Table 1,

are in agreement with those reported by Jourard and Secord (4). For the total sample there was considerable agreement concerning the ideal dimensions and there was less variability about the ideals than about corresponding self-estimates or actual dimensions. As might be expected, there was greater agreement about the relevant dimensions—those usually used in reporting female figures—height, weight, bust, waist, and hips than about those for the neck, wrist, and ankle. That first-born children are more accurate about the social

TABLE 1
IDEAL MEASUREMENTS—THE SOCIAL STEREOTYPE

Measure	Total sample ($N = 93$) Mean	*SD*	*SD* as per cent of mean	Standard deviation First-born children ($N = 52$)	Later-born children ($N = 41$)	*F*
Height (inches)	65.18	1.22	1.87	0.93	1.52	2.66*
Weight (pounds)	120.57	7.19	5.96	7.17	7.30	1.04
Bust (inches)	35.14	1.53	4.35	1.43	1.69	1.39
Waist (inches)	22.55	1.23	5.45	1.28	1.18	0.85
Hips (inches)	35.14	1.93	5.49	1.38	2.48	3.24*
Neck (inches)	11.39	2.72	23.88	2.71	2.77	1.04
Wrist (inches)	5.68	1.22	21.48	1.19	1.28	1.17
Ankle (inches)	7.22	1.91	26.45	1.81	2.05	1.28

* $p < .01$.

stereotype of body size is evidenced by the comparison between their standard deviations about the ideal sizes and those of the later-born children. As can be seen from Table 1, for seven out of the eight dimensions, first-born children have the smaller standard deviations. This is significant at the .035 level, by the binomial test. The use of the binomial test is not totally appropriate as the dimensions are not independent, a restriction required for application of the binomial. Alternatively, *F* ratios of only two of the dimensions, hip size and height, are significant at the .05 level or better, but these ratios are also not independent, nor is there any easy way to accumulate them.

A third method of analysis is presented in Table 2, *S*s were classified by the number of dimensions on which they differed from the total sample mean by more than one standard deviation. The inference that first-born children show less variability about the ideal is not as straightforward, but the statistical test is legitimate although the confidence level is marginal. An additional analysis shows that the distribution for first-born children is removed from chance expectancies. That for the later-born children is not. It should be noted that we are not arguing that a number of inappropriate analyses, when combined, become satisfactory. Rather we are subjecting a difficult set of data to the most reasonably available analytic techniques and accepting the conclusions toward which they point.

The results have been presented only for variabilities about the ideal dimensions. Although not under test, *t*-test comparisons were made on first-born *vs.* later-born differences in reporting ideal means. First-born children reported ideal heights and weights significantly greater than later-born children, at the .02 and .05 confidence levels respectively. Later-born children, at the .05 level of confidence, report a higher ideal mean for wrist size. These comparisons are subject to the same nonindependence objections discussed above.

TABLE 2
DEVIATIONS OF THE SUBJECTS' ESTIMATES OF THE IDEAL DIMENSIONS*

Number of dimensions on which estimates more than one *SD* from ideal	First-born children ($N = 52$) Number of subjects	First-born children ($N = 52$) Per cent of subjects	Later-born children ($N = 41$) Number of subjects	Later-born children ($N = 41$) Per cent of subjects	Per cent expected by chance
0, 1	20	38	9	22	20
2	13	25	10	24	27
3	12	23	9	22	27
4 or more	7	14	13	34	26

* Chi square $= 5.56$ ($df = 3$, $p < .10$) for first-born children *vs.* later-born children; 12.58 ($df = 1$, $p < .001$) for first-born children *vs.* chance; and 1.08 ($df = 1$, $p < .50$) for later-born children *vs.* chance.

First-born *vs.* later-born differences manifest themselves in other ways. All *S*s tended to err in the estimates of their own measurements. These errors were not random, for consistently *S*s tended to make errors in the direction toward their ideal. Thus a girl who was actually 5′ 8″ who reported an ideal height of 5′ 4″ tall might report as her self-estimate 5′ 6″. Her estimate is two inches shorter than her actual height. Conversely a girl only five feet tall reporting the same ideal height of 5′ 4″ might describe herself as 5′ 2″ tall. Again, a two-inch error (this time an overestimate), but in both cases the girls have distorted toward the ideal. Discrepancy scores were constructed for each *S* by taking the difference between her estimated size and her actual size, giving it a plus sign if this difference were toward the ideal and a minus if it were away. For all classifications across all dimensions these mean discrepancy scores were positive.

One effect of the awareness manipulation was to make all *S*s more accurate in their self-estimates. For six of the eight dimensions, the mean discrepancy scores were lower in the "aware" than in the "unaware" conditions. In the "unaware" condition the discrepancies reflect the *S*s' errors plus their cognitive distortions toward an ideal stereotype. In the "aware" condition, knowing that they were to be measured, the discrepancies represent the errors only. These results are reported in Table 3. In the "unaware" condition, in seven

TABLE 3
MEAN DISTORTION OF ESTIMATED BODY MEASUREMENTS TOWARD IDEAL MEASUREMENTS

Estimate	Aware condition			Unaware condition		
	First-born children ($N = 27$)	Later-born children ($N = 22$)	All children ($N = 49$)	First-born children ($N = 25$)	Later-born children ($N = 19$)	All children ($N = 44$)
Height (inches)	0.133	0.169	0.091	0.068	0.020	0.132
Weight (pounds)	1.983	2.120	1.830	0.943	0.830	1.092
Bust (inches)	0.270	0.306	0.230	0.370	0.620	0.040
Waist (inches)	1.089	1.029	1.163	0.972	0.910	1.053
Hips (inches)	0.870	1.227	0.433	0.631	0.395	0.942
Neck (inches)	0.298	0.421	0.148	0.531	0.320	0.809
Wrist (inches)	0.579	0.634	0.511	0.086	0.071	0.111
Ankle (inches)	0.896	0.949	0.836	0.132	0.052	0.238

out of eight dimensions, first-born children have larger discrepancy scores than do later-born children ($p = .035$, binomial). In the "aware" condition, however, this trend is reversed. First-born children, for seven out of eight dimensions, distort less than do later-born children. Once again, there is greater proportional misestimation in both conditions on the three irrelevant dimensions than on the five relevant dimensions.

TABLE 4
NUMBER OF DISTORTIONS TOWARD IDEAL

Number of distortions	Aware condition* First-born children	Aware condition* Later-born children	Unaware condition** First-born children	Unaware condition** Later-born children
7 or 8	10	7	4	8
5 or 6	12	4	9	5
4 or less	5	11	12	6
Total	27	22	25	19

* $\chi^2 = 6.33$, $p < .05$.
** $\chi^2 = 3.73$, $p < .25$.

TABLE 5
NUMBER OF DISTORTIONS TOWARD IDEAL

Number of distortions	First-born children* Unaware condition	First-born children* Aware condition	Later-born children** Unaware condition	Later-born children** Aware condition
7 or 8	10	4	7	8
5 or 6	12	9	4	5
4 or less	5	12	11	6
Total	27	25	22	19

* $\chi^2 = 5.82$, $p < .10$.
** $\chi^2 = 1.44$, $p < .50$.

The use of the binomial test is not entirely appropriate, as the subject's distortion on any one dimension is not independent of her distortion on the others. Alternatively, a total distortion score—the sum of each individual's distortions on the eight measurements—was computed. In the "unaware" condition the first-born children's mean was 6.86, the later-born children's mean was 5.24. In the "aware" condition the respective means are 3.22 and 4.18. An analysis of variance of these scores discloses an awareness effect and awareness-by-birth-order interaction, both significant at the .001 level. However, the distortion scores are also an inappropriate tabulation, for each score is a melange comprised of pounds and inches and which overrepresents the irrelevant dimensions. An additional analysis was also made. *Ss* were separated into the number of dimensions which were distorted toward ideal. Tables 4 and 5 present these tabulations which (although in the predicted directions)

are not as uniformly supportive of the hypotheses as the previous analyses. Table 4 shows first-born children distort significantly more than later-born children in the "unaware" condition. Later-born children distort more than first-born children in the "aware" condition, at a marginal level of significance. Table 5 shows that while there is a tendency for less distortion by first-born children when aware, later-born children display no differential accuracy in the two conditions. We suggest that all the analyses tend to show the same interactive effect. First-born children distort more when "unaware" they are to be measured and less than later-born children when "aware" of the impending measurements.

The results confirm the previous findings of Jourard and Secord (4) and of Calden, Lundy, and Schlafer (2). Uniformly, girls report as ideal weights, waists, and hips, amounts smaller than their self-estimates. Reports of height are varied—short girls wish to be taller and tall girls wish to be shorter. Almost all girls wanted larger bust sizes except for the extremely overweight ones. That the basic female strategy is "when in doubt, reduce" can be inferred from the fact that most *S*s reported smaller ideals than self-estimates. It is of interest that of all dimensions bust size was most accurately estimated. Whether this is because knowledge of bust size is more essential in the purchase of clothes is a matter of speculation.

We have presented evidence that the greater social concern of first borns leads to certain distortion in body-size reports. Although we have suggested that their greater social anxiety is a correlate of a general first-born syndrome of anxiety and dependence, the possibility remains that first-born children and only children are more concerned because they have more to worry about. Such would be the case if they actually deviated more from the ideal than did later-born children. An analysis of the actual measurement data rules out this possible alternative. There were no significant differences between first-born children and later-born children on any of the eight dimensions. The greater concerns of the first-born children are over the same objective differences for the stereotype.

Extension of these findings of greater first-born children's body concern leads to many interesting speculations about first-born *vs.* later-born differences in dieting, fashion, and even, perhaps, hypochondriasis.

D. Summary

Ninety-three female students filled in a questionnaire reporting both their own measurements and those they thought ideal for the female figure. All *S*s were then measured: 49 did not know they were to be measured before they

completed the questionnaire, the remaining 44 *Ss* knew before they reported their measurements and the ideal. Evidence for a social stereotype was inferred from agreement on the ideal measurements. First-born children had less dispersion about this ideal than later-born children. Most *Ss* distorted their self-estimates toward the ideal. When they knew they were to be measured first-born children distorted less than later-born children. When they were unaware of the impending measurements, first-born children distorted more than later-born children.

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ALIENATION IN NEGRO AND WHITE REFORMATORY INMATES*

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A. INTRODUCTION

Recently, the construct of alienation has received increasing attention in the social sciences; however, it has only occasionally been studied empirically. This is probably due to the overinclusiveness and lack of operational referents in the use of this term. Seeman (8), in an attempt to make alienation more amenable to research, defined five components of alienation: powerlessness, isolation, normlessness, meaninglessness, and self-estrangement. Subsequently, scales were constructed to measure the first three components (4).

Powerlessness is defined as "the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes or reinforcements he seeks." Where powerlessness focuses on an individual's self-perceived control of his fate, normlessness refers to a "high expectancy that socially unapproved behaviors are required to achieve given goals." This latter construct is derived from Durkheim's anomie, which denotes the loss of commonly held standards and the attendant development of instrumental, manipulative attitudes.

Social isolation, as defined by Dean, refers to a loss of close ties with others, a state of loneliness where relationships with others are tenuous at best.

In the present investigation Dean's alienation scale was administered to white and Negro reformatory inmates. Bettelheim (2), Elkins (6), and Sykes (9) have found passivity, irresponsibility, and childishness to be one form of adaptation to prison existence. Such behavioral characteristics are viewed as deriving from a lack of opportunity for the implementation of personal-value systems because the inmate is relatively powerless to pursue his own goals in the prison. The feeling of powerlessness should also theoretically be more characteristic of the lower socioeconomic-class group, which comprises the majority of the reformatory population used in this study. It is predicted, therefore, that prison inmates should score higher on a measure of powerlessness than a comparative group of noninstitutionalized subjects.

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Negroes have consistently been found to have a greater sense of unworthiness, inferiority, and lower self-esteem than whites (5). One may predict, therefore, that within the reformatory population Negroes will report even greater powerlessness than whites.

Bandura and Walters' finding that frustrated dependency needs characterize delinquents or aggressive youths (1) suggests that youthful offenders might have lower expectancies for dependency satisfaction in their social relations. Consequently, they should be more apt to experience disappointment in others with concomitant feelings of loneliness. This tendency should be reflected in higher scores on social isolation for reformatory inmates as compared to noninstitutionalized samples.

Normlessness, the expectancy that socially unapproved behaviors are necessary to achieve valued goals, should be greater in a group of persons who have committed antisocial acts. It is predicted, then, that reformatory inmates will score higher on normlessness than a comparative sample of noninstitutionalized subjects. Since Negroes find themselves discriminated against by the white majority in their striving for middle-class goals, they should have less belief in the efficacy of middle-class norms for achieving middle-class goals. It is predicted, therefore, that Negro inmates will score higher than whites on normlessness.

B. Hypotheses

In summary, the following hypotheses were made:

1. Reformatory inmates, by virtue of the lack of opportunity for individual value implementation in the prisoner's role, will score higher on the powerlessness dimension than nonprisoners.

2. Negroes, who maintain low expectancies for success in accord with accepted stereotypes for Negro behavior, should score even higher than white inmates on the powerlessness dimension.

3. The reformatory population in general are expected to score higher on the isolation variable than the general population.

4. If antisocial acts occur as a function of low expectancies of success in socially acceptable modes of behavior, then reformatory inmates should score higher on the normlessness dimension than the general population.

5. Negroes will score higher than white inmates on normlessness because racial discrimination often precludes the possibility of success through socially acceptable means.

C. Subjects

Sixty Negro and 60 white reformatory inmates were tested. The *Ss* were selected on the basis of similar social class and intelligence estimates. For the most part, the *Ss* were of lower-class origin, while intelligence levels were all within the average range (Beta *IQ* between 90 and 110). The mean age of each of the two samples was 21.6 years. Car theft was the most frequent crime resulting in incarceration.

D. Results

Three comparisons were made for each variable. Negro inmates were compared with white inmates and each of the two was then compared with Dean's normative data based on a stratified sample of 384 males from Columbus, Ohio.

TABLE 1
Mean Differences Between Negroes and Whites

Variable	Negroes ($N = 60$) Mean	*SD*	Whites ($N = 60$) Mean	*SD*	*t*	*p**
Powerlessness	17.30	5.02	14.63	4.98	2.89	.01
Isolation	17.28	4.97	16.95	6.72	.31	n.s.
Normlessness	12.40	4.90	9.37	4.53	3.49	.001

* Two-tailed tests.

Table 1 indicates that Negroes and whites differed significantly in the predicted direction on both the powerlessness and normlessness measures. Negroes scored significantly higher than whites on both the powerlessness and normlessness dimensions supporting Hypotheses 2 and 5. Differences in isolation were small and nonsignificant.

It should be noted that whites were significantly more variable on the isolation measure than Negroes (*t* between standard deviations = 2.28, $p < .05$). A parametric test of mean differences was justified, however, since the *N*s of the two groups were identical (3). Table 2 presents Dean's norms,

TABLE 2
Dean's Norms for Alienation Variables
($N = 384$)

Variable	Mean	*SD*
Powerlessness	13.65	6.10
Isolation	11.76	4.60
Normlessness	7.62	4.70

and Table 3 presents the mean differences between the two inmate samples (white and Negro) and the normative population. Significant differences in the predicted directions were found in all comparisons except that between white inmates and the norm group on the powerlessness measure. Inmates, in general, scored significantly higher than Dean's normative sample on both isolation and normlessness, supporting Hypotheses 3 and 4. The one exception

TABLE 3
COMPARISONS* BETWEEN DEAN'S NORMS AND THE INMATE SAMPLES

Variable	Dean's norms *vs.* Negroes t	p	Dean's norms *vs.* whites t	p
Powerlessness	4.42	.001	1.20	n.s.
Isolation	8.76	.001	7.63	.001
Normlessness	7.32	.001	2.71	.01

* Two-tailed tests.

TABLE 4
INTERCORRELATIONS AMONG THE ALIENATION VARIABLES

Variable	Powerlessness	Isolation
Powerlessness		
Isolation	.44*	
Normlessness	.48*	.28**

* $p < .01$.
** $p < .05$.

to the predicted differences occurred between white inmates and Dean's norms for powerlessness. The lack of difference suggests that the prisoner's role is not as effective in creating self-doubts about power or control as has been hypothesized. The significant difference in powerlessness between Negroes and the normative group suggests the stronger influence of the racial role in determining self-evaluation of personal effectiveness.

The comparisons with the norm group may be unjustifiable statistically in view of the fact that both variance and *N*s were often widely different. However, the magnitude of the obtained t ratios are so large as to minimize the possibility that the significant differences are fallacious.

Table 4 presents the intercorrelations among the three variables. All are significant and in the expected directions, though of a lesser magnitude than those reported by Dean. This may be partially accounted for in that the prison population represents a more extreme group on the alienation dimensions. The lesser range of obtained scores would decrease the potential intercorrelations among the scales.

E. Discussion

Because most of the hypotheses were verified, it seems that the constructs included under the rubric of alienation, as measured by Dean's scales, illuminate useful dimensions through which antisocial behavior and problems generated by differential socialization of Negroes and whites may be studied. The components of alienation—powerlessness, isolation, and normlessness—seem to be correlated with the incidence of antisocial activity. It may be hypothesized that alienation indices are more predictive of antisocial acts than are measures of aggressive motivation or traits such as hostility. Jessor (7) has found significant prediction of delinquent acts through a measure of success expectancy for valued goals that lends support for such a hypothesis.

In general, the results imply that the alienation components do reflect attitudes attributed to persons of particular racial and social groups. As with most self-administered scales, however, the question can be raised regarding the effects of response bias and the *Ss*' conception of what the test measures. It is possible, for example, that agreement with powerlessness and normlessness items reflects inmates' antagonism to and rejection of institutional dogma which usually stresses self-control and socially acceptable behavior. If such were the case, the higher scores of Negro inmates could be interpreted as reflecting even stronger rejection of white authority.

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EFFECTS OF TIME ON MENTAL-HEALTH COMMUNICATIONS*[1]

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A. INTRODUCTION

A recent study (4) reported a successful attempt to construct mental-health messages that stressed either a preventive approach based on individual initiative or a passive treatment-by-others approach to delusion control. These messages were found to have different immediate effects on the opinions of an undergraduate audience. The present study was designed to investigate further the effectiveness of such messages, with special emphasis on the fate of message-induced opinions with the passage of time.

Reasons behind the significance of a formal assessment of variables in mental-health communication to the public have been given in detail by Nunnally (2). Papageorgis (4) has discussed the desirability of constructing and evaluating preventive, self-help messages in this area. In simple language, the rationale of the experiment reported in this paper may be stated as follows: An audience has been exposed to persuasive messages advocating significant advantages in an area of mental health: namely, in the control of delusions. Most members of the audience change their opinions in the direction advocated by the communications. What happens to their new opinions as time goes by? We may expect that some modifications will occur as forgetting of message content takes place or as the person is exposed to new information outside of experimental control. Suppose that soon after the initial communication, the audience is experimentally exposed to a new message that is at variance with the first. Will the initial changes survive this attack? Irrespective of the answer to this question, what effects will elapsed time have on the opinions of individuals who received both messages? The main objectives of the study were to obtain answers to these questions.

The earlier study by Papageorgis (4) had used messages that stressed prevention, while dismissing the possibility of effective treatment of delusions;

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[1] The experiment reported in this paper was supported, in part, by a research grant to the first author from the Hogg Foundation for Mental Health, The University of Texas.

and messages that stressed treatment, while dismissing the possibility of prevention. The dismissal had been introduced in order to obtain maximum differentiation between the two approaches to delusion control. In the present study, these same messages were compared to similar ones that contained no attempt to dismiss the feasibility of either prevention or treatment. Indeed, these latter messages omitted any mention of the other alternative to delusion control. The authors hypothesized that a prevention message that did not eliminate the possibility of treatment would not be any less effective than one that did so. In addition, the present study was confined to the type of message that was previously called "definite": that is, messages that maintain that successful delusion control is now possible. Although such messages do not correspond to the actual present state of affairs, they have been found by Nunnally (2) and Papageorgis (4) to be more effective than more realistic, "indefinite" messages that place effective delusion control somewhere in the near future.

In summary, the present study deals with definite messages that stress the prevention or treatment of delusions. Some of the prevention messages explicitly dismiss the possibility of treatment, and some treatment messages explicitly dismiss the possibility of prevention. Other messages omit mention of the other alternative. In some instances, only one of these messages was received by an individual subject; and its effects on opinions were traced as time went by. In other instances, the initial message was followed, one week later, by a more moderate and realistic treatment message; and the effects of both messages on opinions were assessed as time passed.

B. Method

1. *Communications*

Experimental communication was achieved by means of written messages that were presented to the subjects in letter-size, single-spaced, mimeographed form. All messages consisted of five paragraphs and averaged about 600 words in length. Each subject received two messages: one during the first session and one during the second session one week later. During the first session, the subject randomly received either one of the four experimental delusion messages or a control message that dealt with the history of anatomy. The four experimental messages included two that stressed the prevention of delusions through self-help and two others that stressed their treatment by an expert. All messages took a very definite stand, maintaining that it was now possible to prevent completely or to treat and cure delusions successfully. Details of the exact structure and content of these messages are available

elsewhere (4). In addition, some prevention messages incidentally dismissed the possibility of effective treatment, while others failed completely to mention treatment. A similar variation regarding the possibility of prevention was introduced with the treatment messages.

During the second session, each of the four groups of subjects who had received experimental messages and the fifth or control group that had received the anatomy message were randomly subdivided into approximately equal subgroups. One subgroup received a control message dealing with the history of magnets, while the other received a message attacking the first-session experimental communications. This message (the moderate-treatment or MT message) will now be described.

The first paragraph of the moderate-treatment (MT) message introduced the reader to delusions and to the forms that they assume and indicated that they are commonly found only in serious forms of mental illness. The second paragraph summarily dismissed any "well-meaning but misguided claims" that delusions could now be invariably prevented or cured and stated that a more accurate assessment of the current status of delusion control would be presented to the reader. The third paragraph maintained that delusions are only *one* of the *symptoms* of mental illness and, as such, cannot be treated independently of the disease as a whole. The fourth paragraph indicated that since some mental disorders could be cured or even prevented it was also true that delusions, too, could be cured or prevented to some extent. However, as other forms of mental illness (e.g., organic) could not be controlled, it was hopeless to expect that complete control of delusions was possible at this time. Furthermore, the danger of relapse was pointed out. The final paragraph summarized the message and advocated use of all available means for combating delusions and mental diseases. The intent of the moderate-treatment (MT) message should now be clear. It was designed to provide a sobering and prevalent viewpoint about the present status of delusion control.

No source was attributed to any of the messages. Unpublished research had shown that the omission of a positive source had no effects on message acceptance in the present context and even possibly served to enhance the effectiveness of the communications.

2. *Procedure*

The experiment was presented to the subjects as an attempt to evaluate the clarity and comprehensibility of written passages. The subjects were given five minutes in which they were to read and underline the main points con-

tained in the passage assigned to them. Following the reading, they answered multiple-choice reading-comprehension questions. The experimental opinion measures were presented as only incidental to the "main purpose" of the study.

The instructions and all other materials were contained in booklets. These were distributed to the subjects during the first two sessions and were similar except that the reading passages differed on each occasion. On a third session, 44 days after the first, the subjects again received similar bookets, but this time no reading passage was included. The booklets contained instructions, reading-content recall questions, and the various opinion measures. All sessions took place in a regular classroom setting and were supervised by the same male experimenter who was in no way connected with the course in which the students were enrolled. At the end of the third session, the procedures, materials, and deceits were fully explained to the subjects.

3. *Opinion Measures*

Ratings on the experimental opinion measures were obtained during all three sessions only after the subjects had been explicitly instructed to respond with their own viewpoints, regardless of the content of the written passages.

A global opinion measure was obtained first by asking the subjects to respond to a series of seven statements each of which was accompanied by a 15-interval graphic scale labeled from "Definitely false" through "Uncertain" to "Definitely true." Two items were designed to measure the subject's perception of research and progress in delusion control. The remaining items were specific to the prevention or to the treatment of delusions.[2]

Following this global measure, the subjects were asked to rate concepts, including "Prevention of delusions" and "Treatment of delusions", on 15 semantic-differential scales (3). Five of the scales were designed to measure Nunnally's "understandability" dimension of meaning (2); two sets of five scales each were to measure Fishbein and Raven's "belief" and "attitude" dimension (1). These refer respectively to the probabilistic and evaluative dimensions of conceptual meaning.

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[2] The seven opinion items read as follows: Item 1: "Research on delusions has [not] paid off very well." Item 2: "It seems pretty clear that the battle against delusions has been won." Item 3: "It is possible to successfully prevent delusions from occurring in a person." Item 4: "Delusions can[not] be treated successfully [as yet]." Item 5: "Delusions should be treated with special drugs and psychotherapy." Item 6: "A person can actually choose between developing delusions and thinking in a realistic way." Item 7: "A person can [do very little to] prevent his developing delusions." The brackets indicate those items that had been reversed when presented to the subjects in order to control for one type of response set.

4. *Subjects*

Male and female undergraduate students enrolled in a course in the psychology of adjustment served as subjects. The experimental procedures were administered during regularly scheduled class meetings, and all students present participated. Because of absences from one or more sessions, the final number of subjects present in all three sessions was 69. The results reported in this paper are based on only these subjects.

5. *Design*

Opinion measures were obtained from each subject on three different occasions. Thus, the measurements over time represent a within-subjects variable in the analysis-of-variance design that also included the various message conditions as between-subjects variables. Probability levels based on two-tailed tests of significance were obtained.

C. Results and Discussion

1. *The First-Session Message Manipulation*

During the first experimental session, subjects were exposed to one of five message conditions. In two of these conditions, they read a message that maintained that prevention of delusions was now possible and that dismissed the possibility of effective treatment or omitted any mention of treatment. Two other groups of subjects read a message stating that delusions could now be effectively treated and cured and dismissed the possibility of prevention or omitted any mention of it. Finally, a fifth group of subjects read a control message dealing with the history of anatomical discoveries.

First-session results on opinions provide answers to two major questions. First, do these results replicate the findings of previous research carried out with prevention-treatment-dismissed and treatment-prevention-dismissed messages? Second, does dismissal as opposed to omission of the other alternative to delusion control lead to differential effects on postcommunication opinions? Table 1 presents the first-session opinion means for the seven global-opinion items.

The *pattern* of means in the relevant cells of Table 1 closely replicates the earlier findings. In addition, a tendency of the new control subjects to express lower opinions than the earlier control group should be noted. Most noteworthy is the tendency of the prevention message in the present study to be more effective than previously reported. One possible reason for this last

tendency may be the omission in the present study of a positive-source attribution to the messages. Unpublished research has revealed a trend for messages without explicit positive-source attribution to be more effective than messages explicitly attributed to a positive source. In summary so far, the present findings confirm the possibility of effective communications about delusions and

TABLE 1
FIRST-SESSION MEAN OPINION SCORES FOR THE SEVEN OPINION STATEMENTS IN THE EXPERIMENTAL AND CONTROL CONDITIONS*

		Opinion statement						
		General success		Treatment success		Prevention success		
Message	*N*	1**	2	4	5	3	6	7
Prevention treatment dismissed	15	14.07	7.27	9.80	6.13	12.20	12.80	11.80
Treatment prevention dismissed	13	13.23	10.28	11.54	13.92	3.08	5.92	6.77
Prevention treatment omitted	12	13.92	10.58	10.92	9.00	12.75	11.42	11.83
Treatment prevention omitted	14	14.29	7.93	12.93	13.21	6.43	5.36	7.79
Control	15	9.60	5.27	9.67	9.93	4.67	6.80	8.47

* Based on 15-interval scales, with high scores representing greater belief in successful delusion control.
** Opinion-statement number as given in Footnote 2.

again show that different results are obtained on opinions with messages that stress prevention or advocate treatment as means of delusion control. It is again worth noting that the disregard for facts that characterizes in part these messages appears to have no effect upon their acceptance by the audience. Finally, note that the incidental dismissal of the possibility of prevention in a treatment message is found, once again, to have much more devastating effects on opinions about successful prevention than has the dismissal of the possibility of treatment in a prevention message on opinions about successful treatment.

The new message manipulation introduced in the present study dealt with the omission of any mention of treatment in prevention messages and with the omission of any mention of prevention in treatment messages. The prevention-treatment-omitted message appears to be just as effective as the prevention-treatment-dismissed message, although as expected the former did not change opinions about treatment from the control baseline (the latter message lowered these opinions). Similarly, the treatment-prevention-omitted message turns out to be just as effective as the treatment-prevention-dismissed message without significantly lowering opinions about successful prevention below

the control levels. More specifically, on Opinion Item 1, all experimental group means are significantly different from the control group mean ($p < .01$). No significant differences were found between experimental message conditions (the probability levels were obtained by Scheffe's test). On Item 2, no significant differences were found. For Item 3, all mean differences are significant at the .01 level, except for the comparison between the two prevention messages and the difference between the treatment-prevention-omitted-message and the control-message means. No significant differences were found on Item 4. On Item 5, all the comparisons between prevention and treatment means are significant ($p < .01$), as are the differences between controls and each of the treatment messages ($p < .05$ and beyond). Finally, on Items 6 and 7, all comparisons between prevention and treatment means are significant ($p < .01$), and so are the comparisons between prevention and control messages ($p < .01$). These findings appear reasonable, although at the beginning of the research project we had conceived of the possibility that, at least in the case of the prevention messages, omission of treatment would have resulted in reduced communication effectiveness. On the basis of the present findings, it is safe to conclude that this is not the case.

The semantic-differential ratings followed closely those obtained previously. An analysis of variance, however, failed to reveal a significant effect for the five message conditions.

2. *Effects of the Moderate-Treatment Message*

One week after the first session, approximately half of the subjects in each experimental and control group received a message presenting a more realistic appraisal of delusion control and stressing the advisability of treatment. This moderate-treatment message was expected to dampen the effects of the previous messages. In terms of the first-session treatment messages, the moderate-treatment (MT) message was considerably less optimistic. In comparison to the earlier prevention messages, the moderate-treatment (MT) message was not only less optimistic in its general outlook but also acted to refute the prevention approach. Since the remaining subjects received a second control message dealing with magnets, it is possible to examine the effects of the moderate-treatment (MT) message on opinions. In this section, only second-session effects will be discussed. Later on, the course of opinions over the three sessions will be examined in detail. Table 2 presents the second-session opinion-item results.

The subjects who received control (anatomy) messages during the first session allow us to assess the effects of the moderate-treatment message

when it was preceded by no experimental message. It will be seen from the appropriate cells in Table 2 that when the moderate-treatment (MT) message has an effect (Items 2, 3, 4), this effect is to lower the control opinions. There is, however, one exception (Item 5) where the moderate-treatment (MT) message increases the belief that delusions should be treated with drugs and psychotherapy. The moderate-treatment (MT) message did argue in favor of this approach.

TABLE 2

SECOND-SESSION MEAN OPINION SCORES FOR THE SEVEN OPINION STATEMENTS FOR THE COMBINATIONS OF FIRST-SESSION AND SECOND-SESSION MESSAGES*

Message combination	N	Opinion statement: General success 1**	2	Treatment success 4	5	Prevention success 3	6	7
Prevention treatment dismissed/Magnets	6	14.67	3.33	9.83	6.67	10.33	13.67	12.50
Prevention treatment dismissed/MT***	9	10.56	4.11	6.33	10.33	6.00	10.22	11.00
Treatment prevention dismissed/Magnets	5	14.40	5.00	10.40	11.20	2.60	8.00	8.80
Treatment prevention dismissed/MT	8	13.75	6.25	11.62	12.75	6.38	4.38	6.25
Prevention treatment omitted/Magnets	6	13.17	9.50	11.17	8.00	11.33	10.83	11.83
Prevention treatment omitted/MT	6	11.83	2.33	9.17	11.50	7.33	9.33	9.33
Treatment prevention omitted/Magnets	6	13.83	8.00	13.83	13.50	4.83	4.62	4.62
Treatment prevention omitted/MT	8	12.00	4.12	10.50	11.75	7.75	3.75	5.25
Anatomy/Magnets	8	10.12	5.88	9.62	8.88	4.38	6.25	7.88
Anatomy/MT	7	10.00	2.57	5.43	12.14	2.43	7.29	8.28

* Based on 15-interval scale, with high scores representing greater belief in successful delusion control.

** Opinion-statement number as given in Footnote 2.

*** MT = Moderate treatment.

An overall analysis of variance with experimental conditions combined shows that the moderate-treatment (MT) message significantly lowered the opinions on Items 1, 2, 4, and 6 below the second-session control level ($p < .05$). No effects were found with Item 7; and the moderate-treatment (MT) message, as already noted, increased opinions on Item 5.

At this point it will be well to summarize the expected effects of the moderate-treatment (MT) message as would be predicted from the control conditions already discussed and the content of the first-session experimental messages and to compare these expectations with the obtained means shown in Table 2.

In terms of Items 1 and 2 that dealt with the overall success of delusion control, we would expect the moderate-treatment (MT) message to lower opinions formed by the previous messages because the former presented a more realistic and less optimistic account of the issue. The obtained results are always in the expected direction for Item 1. For Item 2, two conditions resulted in reversals: the "prevention treatment dismissed" and the "treatment prevention dismissed." In both conditions, this reversal is an accidental artifact: the first-session means for the groups that subsequently received the moderate-treatment (MT) message were much higher than the first-session means for the magnet-message groups. Actually, control subjects dropped an average of two points between the sessions, whereas moderate-treatment subjects dropped an average of more than five points.

Second, we would expect the moderate-treatment (MT) message to lower opinions about successful prevention (Items 3, 6, and 7), at least in the case of subjects who had read prevention messages during the first session. This expectation is supported in all cases. An interesting finding was observed on Item 3 for subjects who had read treatment messages. The moderate-treatment (MT) message here increases opinions about successful prevention. This is curious, but a possible explanation is that the moderate-treatment (MT) message may refute the initial-treatment messages; hence force some subjects to increase their beliefs in at least one method of possible delusion control.

Finally, the effects of the moderate-treatment message on treatment items are much more difficult to specify in advance. The control comparisons have suggested that the moderate-treatment message should increase opinions in Item 5. This is the case with the prevention subjects. The treatment subjects do not show consistent effects, possibly because the moderate-treatment message may have been too confusing for them, serving in some cases to bolster beliefs and in others to weaken them. In the case of Item 4, the moderate-treatment message lowers beliefs except in the case of one of the treatment messages.

Semantic-differential ratings that were obtained in a fashion similar to that of the first session failed to yield significant effects between message conditions.

It may be concluded that the second-session moderate-treatment message had a dampening effect on opinions formed after the first session, especially where prevention messages had been used previously.

3. *Long-Range Time Effects*

It is also possible to assess the course of the message-induced opinions over a time interval of 44 days following the first session, in both the case where a moderate-treatment message followed the first communication and when the

first message was followed only by a control communication. Table 3 presents the third-session opinion-item results in a manner similar to that used in Table 2.

The means presented in Tables 1, 2, and 3 were evaluated by analysis of variance for each opinion item and first-session communication condition, with

TABLE 3
THIRD-SESSION MEAN OPINION SCORES FOR THE SEVEN OPINION STATEMENTS FOR THE COMBINATIONS OF FIRST-SESSION AND SECOND-SESSION MESSAGES*

Message combination	N	Opinion statement: General success 1**	2	Treatment success 4	5	Prevention success 3	6	7
Prevention treatment dismissed/Magnets	6	12.83	4.67	9.83	7.83	10.50	11.83	11.50
Prevention treatment dismissed/MT***	9	10.11	5.44	7.33	7.67	10.00	11.11	12.11
Treatment prevention dismissed/Magnets	5	13.20	6.40	10.20	13.00	4.40	9.80	9.40
Treatment prevention dismissed/MT	8	13.00	5.62	13.25	12.12	4.12	4.75	7.50
Prevention treatment omitted/Magnets	6	13.00	6.83	10.33	9.33	10.67	10.50	11.67
Prevention treatment omitted/MT	6	12.83	5.00	11.00	11.33	11.00	9.83	8.83
Treatment prevention omitted/Magnets	6	12.33	7.83	12.33	12.33	7.17	4.62	7.16
Treatment prevention omitted/MT	8	11.62	4.25	9.50	11.75	4.62	4.88	7.50
Anatomy/Magnets	8	9.62	5.00	10.12	10.00	5.75	7.12	9.25
Anatomy/MT	7	12.43	3.86	6.86	11.29	7.28	6.00	8.00

* Based on 15-interval scale, with high scores representing greater belief in successful delusion control.
** Opinion-statement number as given in Footnote 2.
*** MT = Moderate treatment.

session and second-session message as the two main effects. In the great majority of the analyses, the subjects who had read the control message during the second session were found to have higher overall opinion means than the subjects who had been exposed to the moderate-treatment message; however, only in one instance were these differences statistically significant. On the other hand, over the three sessions several significant effects were found. These were in the form of a second-session drop in opinion (usually the result of the moderate-treatment message) without significant changes for the rest of the time period or were characterized by a second-session drop in opinions that was followed by a substantial increase. In other words, the effects of the moderate-treatment message noted in the previous section usually tend to

dissipate with time, and the opinions finally tend to return to the patterns [see Table 3] observed following the first session. There are a number of cases where opinions are lowered as a result of time and the moderate-treatment message (as a comparison of Tables 1 and 3 will show); but, with the exception of very few instances, the opinions at the end of the third session still remain different (in the direction of the first-session communications) from those of the control subjects. The data fail to show differential losses over time in terms of first-session message conditions.

Analyses of the semantic-differential concepts of "prevention of delusions" and "treatment of delusions" were also carried out with first-session messages, second-session messages, sessions, and dimensions of meaning as the main effects. Higher overall ratings were found in the treatment-prevention-omitted condition than in the treatment-prevention-dismissed message ($p < .02$). The prevention-treatment-dismissed message similarly resulted in higher ratings than the treatment-prevention-dismissed condition ($p < .001$). No differences were found between the two messages that omitted mention of the other delusion-control alternative or between the two prevention messages. All these findings are consistent with the original intent of the messages. Also, a significant decline in ratings ($p < .05$) was found over sessions that was mainly due to a lowering of ratings between first and second sessions.

On the treatment-of-delusions concept, a significant session effect was found ($p < .05$) representing an overall monotonic decrease in ratings over time.

D. Summary and Conclusions

In this experiment, the effects of mental-health communications dealing with the control of delusions on the opinions of college undergraduates were assessed over a period of 44 days. Aside from control communications, there were four experimental messages: two of these messages stated that delusions could be prevented, while the other two stated that delusions could be effectively treated and cured. One of the messages that advocated prevention also discounted the possibility of treatment, while the other omitted any mention of it; similarly, the treatment messages discounted or omitted prevention. One week later, the same subjects were exposed to a control message or to a message that attempted to present a more moderate or realistic assessment of the present status of delusion control, stressing reliance on treatment procedures. Opinions were measured following these messages and again 44 days after the first session.

The results of the present experiment satisfactorily replicate those of a previous experiment that had assessed the immediate effects on opinions of

treatment and prevention messages that included the dismissal of the other control alternative (4). In line with the communications, differences in opinions were found, and the discounting effect was most pronounced when it involved prevention.

The present study also included messages on treatment and prevention that omitted any mention of the other alternative. These messages were found to be just as effective as the others and did not produce discounting effects at the expense of the unmentioned alternative. A good case may be made for the use of these messages in practical applications, especially since their effectiveness persists just as well with the passage of time.

In general, the effects of the more moderate treatment message (a message, incidentally, that an audience is likely to be exposed to nowadays) that had been expected to serve as an attack on the previous messages were noticeable, especially immediately after its receipt by the audience. Both time and the more moderate message served to reduce the effects of the original messages, but at the end of 44 days (and even when the moderate-treatment message had intervened) the opinions remained above the control level with very few exceptions. Furthermore, the four original messages could still be distinguished by their effects on opinions regarding prevention and treatment.

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GEOGRAPHICAL MOBILITY AND DOGMATISM, ANXIETY, AND AGE*

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A. INTRODUCTION

A number of authors (*cf.*, 1, 2, 3, 4, 8, 10) have suggested that geographical mobility may have disruptive effects upon personality: "The population in the more mobile households furnishes more than its share of psychoses, neuroses, psychopathic personalities, and other types of personality disorders among adults and children" (10, p. 39).

The investigation of relationships between geographical mobility and personality characteristics other than disorders for which professional counseling, therapy, or hospitalization has been secured is lacking in the literature; yet, since geographical mobility is associated with psychoses, neuroses, and other major disorders, it seems likely that it may also be associated with less-deviant personality characteristics.

We have hypothesized a positive relation between geographical mobility and anxiety because anxiety seems a likely precursor to more-extreme manifestations of disorder. We have also hypothesized a positive relation between mobility and dogmatism [i.e., resistance to change of a total system of beliefs (7, p. 22)]. The latter relation is suggested because (*a*) dogmatism and anxiety have been shown to be correlated (7, p. 348) and because (*b*) it seems to us that a logical "defense" against repeated social and enviromental disruptions would be to "cling to" the only things that are relatively permanent under such conditions—i.e., one's own beliefs.

Beach and Beach (1) have presented findings that intimate a relation such as that postulated between dogmatism and geographical mobility. They compared migratory and nonmigratory groups with respect to the relative importance the members of such groups attached to various factors, among which were real property and customs. The results indicated that the migratory group held customs as highly important and that they discounted the importance of real property. The opposite was true for the nonmigratory group. These findings hint at the possibility that the migratory group sub-

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stituted "ownership" of a stable set of beliefs and rules (in the form of customs) for the lack of ownership of real property. This emphasis upon customs suggests a tendency toward resistance to change of a system of beliefs: i.e., a tendency toward dogmatism.

While investigating the relationships between geographical mobility and anxiety and dogmatism, we have also considered the possibility of the mediation of geographical mobility effects by the nonpsychological variable of age. If current theory is correct concerning the effects of events that occur in the first five years of life (*cf.*, 5, p. 222), then it is possible that whether or not mobility has disrupting effects upon personality development may depend upon the age of the individual when he first "moves." (In the remainder of this paper, whenever we speak of movement we mean a permanent change in residence.) We hypothesize that those individuals who move before Age 5 are more deleteriously affected by the environmental disruption than those first moving after Age 5. Because it seems likely that those who move first will move most, we predict an earlier age of first residence change among the more mobile individuals. This prediction is consistent with the expectation of higher anxiety among the more-mobile subjects.

With the foregoing considerations in mind, the authors investigated the hypotheses that more-mobile individuals (*a*) are more anxious, (*b*) are higher in dogmatism, and (*c*) tend to change residence earlier in life than do individuals of low mobility.

B. Method

1. *Subjects*

Subjects (*S*s) were 90 undergraduate students enrolled in introductory psychology. There were 42 males and 48 females whose ages ranged from 18 to 32 years, with a combined mean age of 20 years.

2. *Procedure*

A test booklet, composed of the Dogmatism (E) scale (7), the Taylor Manifest Anxiety (A) scale (9), and a geographical-mobility questionnaire was given to *S*s during their regular classroom period. The mobility questionnaire was part of a personal-data sheet on which *S*s were asked to indicate (among other things) their age at each time they had made a permanent change in residence.

From the questions concerning mobility, two items of information were obtained for each *S*: his age at the time he made his first permanent change in residence and the total number of such residence changes. On the basis of

the latter data, *Ss* were divided into two extreme groups, each group representing approximately 27 percent of the sample. Each extreme group contained 25 *Ss*. The low-mobility group had mobility scores from one to three permanent changes in residence, with a mean of 1.88 changes. The mobility scores for the high-mobility group ranged from seven to 20, with a mean of 10.48 permanent-residence changes. These groups were compared with regard to their dogmatism and anxiety scores and their ages at the time of their first move.

C. Results and Discussion

The results of the several comparisons are given in Table 1. Generally, the results confirm the hypotheses set forth in the introduction to this paper. The high-mobility group scored higher on dogmatism and anxiety and they tended to move at an earlier age than the low-mobility group.

TABLE 1
Differences Between High-Mobility and Low-Mobility Groups

Mean	Mobility		Difference*
	Low	High	
Dogmatism score	140.4	154.7	14.3
Anxiety score	14.3	18.0	3.7
Age at time of first change in residence	7.3	2.9	4.4

* Each difference significant at the .05 level (one-tail test).

Although attention was not focused upon the middle-mobility group, it is interesting to note that the dogmatism score for that group is 147.9, which is consistent with the direction of the differences between the high-mobility and low-mobility groups; however, the middle-mobility group changed residence for the first time at an earlier age (2.3 years) than did the high-mobility group, and they scored higher than the high-mobility group on the anxiety scale (20.0). Thus, the correspondence between the age at the time of the first residence change and anxiety is better than that between age at first move and dogmatism. This suggests that anxiety may be more closely related to the *time* the environment is disrupted, whereas dogmatism seems more dependent upon the *frequency* with which disruption occurs.

As is usual with most studies of the present type, attention should be focused upon the limits of the generality of the findings. Most of our *Ss* were just out of their teens, and a number no doubt were experiencing their first separation from their parents. Older *Ss* might produce different results.

It should also be noted that not all studies show a correspondence between mobility and personality disruption (6); yet the majority of studies indicate

that (although there may be mediating factors) geographical mobility and various personality disorders "go together." The present study indicates that age at the time of the first residence change may be more important than total mobility in producing anxiety. Other studies (*cf.*, 6, 8) have suggested that parental attitudes about moving may be of importance and that parental attitudes may mediate the consequences of mobility. Thus, any relationship between geographical mobility and personality disruption must be complex. The conclusion that seems most justifiable on the basis of the current literature is that the basic effects of geographical mobility are disruptive in nature; however, the manner in which these effects are manifested may depend upon a number of factors of both a nonpsychological and psychological nature.

D. Summary

Individuals who have changed their residence frequently tend to be more dogmatic and anxious than those who move only a few times; also, the more mobile individuals tend to move earlier in life, usually before Age 5.

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ACCULTURATION AND PERSONALITY AMONG JAPANESE-AMERICAN COLLEGE STUDENTS IN HAWAII* [1]

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A. PROBLEM

One of the major problems in behavior theory concerns the nature of the relationship between acculturation and personality structure (25). As viewed in this article, the process of acculturation is directed toward the ultimate assimilation of the ethnic individual into American society (10); therefore, the psychological problem becomes one of specifying those mediating processes that relate culture change to personal organization. Ruesch (30) has proposed the hypothesis that acculturation to "the American core culture" is a function of the number of the cues and the responses that an individual possesses in common with the dominant social group.

In support of the foregoing hypothesis, Caudill (16) has interpreted the rapid assimilation of the Japanese Americans in terms of the compatibility between the values of the Japanese culture and the value systems of the American middle class. However, Broom and Kitsuse (10) point out numerous factors that create stress in interethnic situations and provide for the prolonged survival of parallel ethnic institutions. Despite the direct continuity between the values of *issei* (first-generation) and *nisei* (second-generation) Japanese Americans, two recognizably different basic personality patterns emerge. DeVos (17, 18) has viewed these differences between generation levels in terms of the problem of achieving greater self-differentiation.

Hawaii, with its peoples of varied national and racial backgrounds and its geographical insularity, is a natural laboratory for acculturation research. Of Hawaii's ethnic groups, the Japanese constitute the largest segment (approximately one-third) of a population that has no majority group. While there has been sustained interest in *nisei* Japanese Americans (1, 16, 17, 18, 21, 22), recent attention has shifted to the college-age offspring of the *nisei:* the third-generation *sansei* (2, 3, 4, 5, 6, 19). The purpose of the present

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study was to determine the differences between *sansei* Japanese-American college students and a comparable group of Caucasian-American students on a set of basic personality dimensions.

B. Method

Ss of the investigation were 60 Caucasian-American (30 male, 30 female) and 75 third-generation (*sansei*) Japanese-American (26 male, 49 female) undergraduate students enrolled in the introductory-psychology course at the University of Hawaii. The mean ages of the Caucasian-American and Japanese-American males were 19.2 and 19.1 years, while the corresponding values for the female groups were 18.6 and 18.7 years. None of the age

TABLE 1
Comparison of Males

Symbol	Personality factor	Japanese-American Mean	Japanese-American *SD*	Caucasian-American Mean	Caucasian-American *SD*	*t*
A	Schizothymia *vs.* Cyclothymia	7.6	2.70	9.6	2.97	2.64*
B	Low "*g*" *vs.* High "*g*"	8.7	1.94	8.5	1.98	0.38
C	Low Ego Strength *vs.* High Ego Strength	17.8	3.46	17.4	3.40	0.44
E	Submissiveness *vs.* Dominance	13.2	3.61	16.6	3.34	3.61**
F	Desurgency *vs.* Surgency	15.7	3.86	16.3	3.78	0.52
G	Low Super Ego Strength *vs.* High Super Ego Strength	12.0	2.52	10.2	3.40	2.27*
H	Threctia *vs.* Parmia	10.1	3.82	14.1	4.27	3.70**
I	Harria *vs.* Premsia	8.0	3.62	9.1	2.70	1.23
L	Inner Relaxation *vs.* Protension	9.7	3.48	8.8	3.75	0.96
M	Praxernia *vs.* Autia	9.4	3.37	11.4	3.30	2.24*
N	Naivete *vs.* Shrewdness	11.0	2.24	11.5	2.53	0.78
O	Confidence *vs.* Timidity	11.2	3.79	9.5	3.07	1.83
Q_1	Conservatism *vs.* Radicalism	10.1	3.25	10.4	3.75	0.32
Q_2	Group Dependence *vs.* Self-Sufficiency	9.5	3.11	10.4	3.30	1.05
Q_3	Low Integration *vs.* Self-Sentiment Control	9.3	2.97	8.8	2.76	0.65
Q_4	Low Ergic Tension *vs.* High Ergic Tension	13.0	4.24	11.7	4.22	1.15

* $df = 54$, significant at the .05 level.
** $df = 54$, significant at the .01 level.

differences was found to be statistically significant. A basic set of source traits in the "personality sphere" was measured with the 16 P. F. (Personality Factor) Questionnaire, Form A (14).

C. Results

1. *First-Order Analysis*

The results of the Japanese-American and Caucasian-American groups on the 16 P. F. are summarized with respect to the above problem. Initially, means and standard deviations were computed on each scale for each of the four subgroups (Japanese-American males, Japanese-American females, Caucasian-American males and Caucasian-American females). Because the sex

TABLE 2
Comparison of Females

Symbol	Personality factor	Japanese-American Mean	*SD*	Caucasian-American Mean	*SD*	*t*
A	Schizothymia *vs.* Cyclothymia	9.1	2.97	10.2	2.88	1.64
B	Low "*g*" *vs.* High "*g*"	7.8	2.01	8.1	2.15	0.69
C	Low Ego Strength *vs.* High Ego Strength	15.0	3.87	16.8	3.71	2.15*
E	Submissiveness *vs.* Dominance	12.0	3.80	13.9	4.13	2.04*
F	Desurgency *vs.* Surgency	15.7	3.37	15.4	3.57	0.37
G	Low Super Ego Strength *vs.* High Super Ego Strength	12.5	2.69	12.8	2.76	0.47
H	Threctia *vs.* Parmia	11.8	4.24	13.4	5.02	1.46
I	Harria *vs.* Premsia	12.0	2.34	11.1	2.36	1.65
L	Inner Relaxation *vs.* Protension	9.5	2.99	7.7	3.23	2.47*
M	Praxernia *vs.* Autia	12.8	3.24	11.5	3.47	1.66
N	Naivete *vs.* Shrewdness	8.3	2.75	8.5	2.50	0.33
O	Confidence *vs.* Timidity	12.4	3.94	9.9	4.08	2.68**
Q_1	Conservatism *vs.* Radicalism	9.2	2.12	9.5	2.84	0.51
Q_2	Group Dependence *vs.* Self-Sufficiency	9.9	2.44	9.4	2.74	0.82
Q_3	Low Integration *vs.* Self-Sentiment Control	9.3	2.81	9.5	3.18	0.28
Q_4	Low Ergic Tension *vs.* High Ergic Tension	14.7	4.93	13.8	4.53	0.83

* $df = 77$, significant at the .05 level.
** $df = 77$, significant at the .01 level.

variable is not of major concern to the present problem, *t* tests of significance were computed only between the personality scores of Japanese-American and Caucasian-American males and between Japanese-American and Caucasian-American females. Within the male comparisons, summarized in Table 1, five of the personality differences exceed the .05 level of significance.

Within the female comparisons, summarized in Table 2, four of the personality differences exceed the .05 level of significance. Only one dimension, Factor E (submissiveness *vs.* dominance), consistently differentiated Japanese-American and Caucasian-American *S*s within both sex groups.

In terms of primary-trait description (14), the Japanese-American males are more reserved (A —), more humble (E —), more conscientious (G +), more shy (H —), and more regulated by external realities (M —) than are Caucasian-American males. Conversely, Caucasian-American males are more outgoing (A +), more assertive (E +), more expedient (G —), more venturesome (H +), and more imaginative (M +) than are Japanese-American males.

Japanese-American females are more affected by feeling (C —), more obedient (E —), more suspicious (L +), and more apprehensive (O +) than are Caucasian-American females. Conversely, Caucasian-American females are more emotionally stable (C +), more independent (E +), more trusting (L —), and more self-assured (O —) than are Japanese-American females.

2. *Second-Order Analysis*

A higher-order factor in the questionnaire domain is a source trait that contributes to the variance of several primary-source traits and is broader in its influences (29, 31). Recently, Gorsuch and Cattell (23) factor analyzed the intercorrelations among the 16 primary factors of the P. F. test and delineated a set of second-stratum source traits, the most salient ones being introversion—extraversion and anxiety. Standard weights for estimating *S*'s endowment on these second-order factors were applied to transform *S*'s sten scores on the primaries to sten scores on the derived secondaries (14).

A comparison of the ethnic groups on the second-order introversion-extraversion and anxiety factors is presented in Table 3. Clearly, the Japanese-American males appear more introverted than do Caucasian-American males. The female groups did not differ on this higher-order dimension.

The Japanese-American male appears to show "inhibition of external reactivity (in terms of past discouragement and present timidity) and greater attention to inner stimuli and ideas" (13, p. 268). Caucasian-American males may best be described at this level of analysis as "socially outgoing, uninhibited persons, good at making contacts" (14).

The second-order anxiety factor has been found to be the basis of clinical judgments of anxiety; therefore it can be interpreted, in general, as clinical anxiety (23). The factor score is essentially an index of the degree of dynamic integration of the total personality, under the Self-sentiment Q_3, utilizing Ego Strength C. Cattell and Scheier (15) hypothesize that "poor integration permits anxiety through conflict (C —), through id pressure (Q_4), through Protension [*L* (paranoid maladjustment in relation to external realities)], and lack of control of fear impulses" (15, p. 319). In comparing the present groups, the Japanese-American females scored significantly (but not dramatically) higher than the Caucasian-American females. The male groups did not differ on this higher-order dimension.

TABLE 3
SECOND-ORDER PERSONALITY COMPARISONS

Sex and second-order factor	Japanese-American Mean	*SD*	Caucasian-American Mean	*SD*	*t*
Males					
Introversion-Extraversion	4.8	1.99	7.5	1.73	5.35**
Anxiety	6.3	1.89	5.6	1.68	1.45
Females					
Introversion-Extraversion	5.2	2.02	6.0	2.24	1.66
Anxiety	6.5	2.19	5.4	2.20	2.32*

* Significant at the .05 level.
** Significant at the .01 level.

D. DISCUSSION

Aside from the early socialization patterns of the family, the adolescent-peer group contributes substantially to the personality molding of Japanese Americans in Hawaii (9, 19, 27, 32). An important component of peer influence is a strong ingroup perception of being a "local" island resident, as opposed to being a "mainlander." Since many nonresidents are Caucasian (e.g., tourists, servicemen, and students) a social polarity of "local" versus "haole" (a semiderisive Hawaiian term meaning "foreigner" but used synonomously for a Caucasian) is formed. A stereotype of a "local" is built and supported by the "youth culture" (28) through symbols, such as clothing fads, hair styles, and the use of Pidgin English speech patterns (12, 26). The resultant swell-guy image of the adolescent male and the glamor-girl image of the adolescent female are Hawaii's own distinctive and Japanese-American counterpart of Talcott Parsons' youth roles (28).

An important outcome of early socialization experiences and peer influences

is a lowering of leadership potential, particularly among the *sansei* males. Bartos and Kalish (7) found that (at the University of Hawaii) there appears to be an underrepresentation in leadership by *sansei* males and greater-than-expected social participation and leadership by *sansei* females. This finding is congruent with Kitano's observation of "social backwardness" among a mainland sample of acculturating Japanese-American males (24) and supports Burma's commentary on the leadership "crisis" among this ethnic group (11). Some have perceived a link here with the stress in (male-dominant) Japanese culture of individual needs in the face of group and family expectancy (19). It is hypothesized that the introverted nature of the *sansei* males sets the stage for diminished social participation and the "leadership crisis."

The traditional stereotype of a retiring-and-compliant Japanese female, as depicted by Benedict (8), is difficult to find among *sansei* females. Indeed, the evidence seems to indicate that females may be acculturating more rapidly or easily than males (4, 5, 16, 18, 20, 24). While the present study reveals several first-order personality differences, there is a great deal of identification with the "core American culture" (especially indicated on the second-order introversion-extraversion factor. The heightened anxiety pattern is not unexpected, in view of the demands and expectations placed on the *sansei* female. It is hypothesized that this elevation in anxiety is situationally induced and linked to the following: (*a*) parental stress on academic achievement, (*b*) dependency-independency conflicts within the Japanese-American family, (*c*) familial and peer pressures surrounding dating and courtship (which becomes particularly crucial in the case of interethnic or interracial relationships—one is reminded of Kingsley Davis' "sociology of jealousy"), and (*d*) social control exerted by the "youth culture." While it may be argued that *sansei* males are subjected to similar pressures, it appears that the way anxiety is handled differs for each sex group, and this difference deserves further scrutiny.

E. Summary

The present study compared personality patterns of third-generation (*sansei*) Japanese-American and Caucasian-American college students on the 16 P. F. Questionnaire. Analysis of the findings indicated five first-order personality differences among the males and four differences among the females. A second-order analysis indicated Japanese-American males higher on introversion, while Japanese-American females scored higher on anxiety. These findings were discussed with reference to a number of forces operative within the Hawaiian milieu.

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PERSONALITY STEREOTYPES OF UNITED STATES AND FOREIGN MEDICAL RESIDENTS*[1][2]

Neuropsychiatric Institute, University of California, Los Angeles; and Department of Physical Medicine and Rehabilitation, New York University Medical Center

GAYLE G. MARSH AND JACOB L. HALBERSTAM

A. INTRODUCTION

Although stereotypes in general tend to be crude overgeneralizations of some of the variables typical of a specific object, they are convenient as a shorthand method of identification and characterization. The observation that stereotyping is a culture-wide phenomenon (1) and often based on relevant distinguishing features renders it serviceable in defining some of the personality traits of physicians. The physician in his role of caring for the injured and the sick has been culturally stereotyped in the United States as a responsible, emotionally stable, and assertive leader, who is socially responsive. Whether or not evidence for this stereotype does in fact exist and whether or not it is specific to the United States culture has received very little attention in the reported literature. Contemporary United States "medical" television programs have certainly emphasized this stereotype. One purpose of the present study was to determine whether or not United States medical residents tend to perceive themselves according to the above-described stereotype. Another purpose was to compare a number of medical specialties to see if the stereotype of the physician is more characteristic of one medical specialty than another. It was hypothesized that United States medical residents score higher on measures of ascendancy, responsibility, emotional stability, and sociability than a roughly comparable group of college males.

Some studies have reported findings which support certain aspects of the

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[2] This study was conducted while the senior author was the Research Associate on the Foreign Physicians Training Study of the Institute of International Education, New York City.

described stereotype of the medical practitioner. McDonald (7) found evidence that Freshman medical students tend to endorse more responsible and managerial qualities than a comparable group of nonmedical graduate students. In the study investigating medical students' change in values during their four years of medical school, Gordon and Mensh (3) found fourth-year students, as well as residents, placing a higher value on independence and recognition and less value on conformity than first-year medical students.

In addition to the above-stated purposes of the present study, comparisons were made between United States and foreign medical residents to see if the United States physician stereotype is related to factors idiosyncratic to a particular culture or to the vocation of medicine. The present study seems to circumvent some of the untenable assumptions concerning the equivalence of meaning, stimulus, and response, which have plagued cross-cultural comparisons (4) by comparing subjects who are in the identical profession, who are English speaking, and living and working in hospitals in United States cities. Thus the subjects share a common language and a common working environment. Because there is evidence that the American culture gives greater sanction to the development of autonomy and individuality than other cultures, particularly the Far Eastern countries that emphasize more sympathetic, mutually supportive and cooperative attitudes (8), it was hypothesized that the United States medical residents score higher on measures of ascendancy and responsibility than foreign medical residents. Because of the strong emphasis on responsibility in the surgeon's stereotype, apparently because he is often involved in life-death decisions on the behalf of his patients, it was additionally hypothesized that surgeons, regardless of nationality, score higher on the measure of responsibility than residents in other medical specialties. As far as the measures of emotional stability and sociability are concerned, no hypotheses have been advanced, because the possible lower scores on these measures by foreign residents, as compared to United States residents, may well depend on situational factors, such as isolation and loneliness resulting from living away from familiar environments.

The Gordon Personal Profile was selected as test instrument because it provides measures of personality characteristics which appear closely related to the stereotype of the United States physician: traits of ascendancy, responsibility, emotional stability, and sociability. Individuals who score high on these four scales can be briefly described as being active, self-assured and assertive in interpersonal relationships, persevering, emotionally-stable individuals who like to be with and work with people.

B. Subjects and Procedure

The subjects were 139 United States and 142 foreign male residents in university-affiliated hospital residency training programs, located primarily in the Northeastern states of the United States. Approximately 10 per cent of the subjects were located in the Midwest and the West. The United States residents with a mean age of 30.9 years, *SD* of 4.9 tended to be somewhat younger than their foreign counterparts, whose mean age was 33.1 years, *SD* of 6.5. Of the United States residents, 50 were in surgery, 47 in internal medicine, and 42 in physical medicine and rehabilitation (PM&R). Of the foreign residents, 49 were in surgery, 36 in internal medicine, and 57 in PM&R. The foreign residents' home countries were tabulated according to the world regions from which they came, following the categorization of home countries by the Institute of International Education (5): 35 residents came from the Far East, 30 from the Near and Middle East, 41 from Europe, 34 from Latin America, and two from Africa. All of them completed their basic and medical education abroad. The United States residents were born and educated in the United States. Of the United States group, 46 were in their first year of residency, 39 in their second year, 39 in their third year, nine in their fourth year, and four and two in their fifth and sixth years, respectively. Of the foreign residents, 46 were in their first year, 43 in their second year, 29 in their third year, 16 in their fourth year, and four each in their fifth and sixth years.

The subjects were randomly selected from lists of residents supplied by chairmen of medical departments and chiefs of services in university-affiliated teaching hospitals. Each resident was reached individually by mail and by trained interviewers for an extensive, structured interview, which included the Gordon Personal Profile. The present investigation, based on the male subjects' scores on the Gordon Personal Profile, includes 88 per cent of the sample of residents studied. The remaining 12 per cent of subjects were female and were excluded from the report. Each resident's supervisor was also requested to evaluate the resident's performance on a rating form.

C. Results

The Gordon Personal Profile score patterns of the United States and foreign medical residents were compared with a logical equivalent group, that of male college students, as well as with the score patterns of the two groups they most closely resembled, top-level and second-level executives (2). Table 1 shows the means and standard deviations of the United States and foreign

TABLE 1
MEANS AND STANDARD DEVIATIONS FOR UNITED STATES AND FOREIGN MEDICAL RESIDENTS AND THREE NORMATIVE GROUPS ON THE FOUR SCALES OF THE GORDON PERSONAL PROFILE

Group	N	Ascendancy		Responsibility		Emotional stability		Sociability	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
U.S. PM&R†	42	24.19	4.53	27.12	3.78	24.28	5.31	22.64	5.43
U.S. surgery	50	23.62	4.57	26.80	3.33	27.34	3.67	20.64	4.82
U.S. internal medicine	47	23.81	5.05	27.02	4.76	24.00	6.26	21.94	5.50
Total U.S. medical	139	23.86	4.73	26.97	4.00	25.29	5.39	21.68	5.29
Foreign PM&R†	57	20.81	5.37	25.18	4.83	22.91	6.50	19.07	6.10
Foreign surgery	49	22.77	4.80	28.24	3.88	25.02	4.89	19.51	5.27
Foreign internal medicine	36	21.33	5.73	24.19	4.59	23.86	5.79	18.92	6.57
Total foreign medical	142	21.62	5.35	25.98	4.77	23.88	5.88	19.18	5.75
College men[a]	4211	21.10	5.80	23.30	5.30	23.70	6.80	21.70	6.20
Top-level executives[a]	18	26.00	4.20	27.50	4.20	27.80	5.20	20.30	5.60
Second-level executives[a]	123	23.50	5.20	28.90	4.30	25.60	6.90	21.40	5.50

† PM&R = physical medicine and rehabilitation.
[a] From Gordon, L. V. *Gordon Personal Profile Manual,* 1963 Revision.

medical residents on the four scales of the Gordon Personal Profile, as well as the means and standard deviations of three United States groups reported by Gordon (2). Since Gordon only lists the means and standard deviations of the normative groups, all comparisons between these groups and the residents' groups in this study were made by the *T* test rather than by analysis of variance. Table 2 summarizes the *t* ratios of the differences in mean scores on the Gordon Personal Profile between each of the three normative groups and the United States and foreign-resident groups. It can be seen at a glance that United States medical residents scored significantly higher than college men on Ascendancy, Responsibility, and Emotional stability. No difference was found on the Sociability scale. In contrast to this pattern, foreign residents scored similarly to United States college men on Ascendancy and Emotional stability but scored higher than United States college men on Responsibility and significantly lower on Sociability.

In addition to the *t* tests comparing the total United States and foreign samples with the normative groups, *t* tests were also calculated for each specialty and the normative groups. It is of interest to note that the *t* tests between the mean Gordon scale scores of the foreign surgeons and the college men resembled the pattern of differences obtained between the United States

TABLE 2
VALUES OF *t* FOR THE DIFFERENCES IN MEAN SCORES ON THE GORDON PERSONAL PROFILE BETWEEN THREE NORMATIVE GROUPS AND UNITED STATES AND FOREIGN RESIDENTS

Gordon scale	Nationality of medical groups	Normative groups[a]		
		College men	Top-level executives	Second-level executives
Ascendancy	United States	6.69**	1.95*	NS
	Foreign	NS	3.95**	2.89**
Responsibility	United States	10.50**	NS	3.73**
	Foreign	6.56**	NS	5.20**
Emotional stability	United States	3.38**	1.87*	NS
	Foreign	NS	2.90**	2.18*
Sociability	United States	NS	NS	NS
	Foreign	5.14**	NS	3.22**

[a] From Gordon, L. V. *Gordon Personal Profile Manual*, 1963 Revision.
* $p < .05$.
** $p < .01$.

residents and the college men. Thus, significant *t* ratios were obtained between the foreign surgeons and the United States college men on all the scales, values of *t* ranging from 1.83 to 8.67, $p < .05$ to $p < .01$. The foreign surgeons appear to resemble the United States medical groups more closely than do the foreign residents in internal medicine and PM&R.

Table 2 also reveals that both United States and foreign residents obtained similar scores to those of the top-level executives on the measures of Responsibility and Sociability, while scoring lower on measures of Ascendancy and Emotional stability. The comparison with the scores of the second-level executives reveals that the United States residents scored alike on measures of Ascendancy, Emotional stability, and Sociability, while they scored significantly lower on measures of Responsibility. The foreign groups scored significantly lower than the second-level executives on all four scales. These results suggest that United States medical residents resemble more closely the managerial type of individual than the academic type on their Gordon Personal Profile scores.

In a further analysis comparing the scores between specialties and the executive groups, it was found that the foreign residents, with the exception of the surgeons, resemble more the United States academic type of individual than the United States managerial type on their Gordon Personal Profile scales. The foreign surgeons' mean scores on the measures of Ascendancy, Responsibility, and Emotional stability, however, were not significantly

different from the scores of the second-level executives on the same measures. It thus appears that the foreign surgeons as well as the United States medical residents resemble the United States managerial type.

The mean scores of the three United States medical specialty groups were compared with the mean scores of the three foreign medical specialty groups by analyses of variance on each of the Gordon Personal Profile scales of Ascendancy, Responsibility, Emotional stability, and Sociability. Table 3 summarizes the analyses of variance of the scale scores. Significant F ratios for the difference between United States and foreign residents were obtained on the Ascendancy, Responsibility, and Sociability scales. The F ratios for the differences between specialties were significant only on the Responsibility and Emotional stability scales.

To determine more specifically the locus of the differences in the mean scale scores among the various groups, t values were calculated in addition to all the significant F ratios reported in Table 3. Comparing the mean scores of United States and foreign surgeons, the t values were insignificant on the Ascendancy, Responsibility, and Sociability scales. The differences between United States and foreign residents in internal medicine and in PM&R yielded t values ranging from 1.87 to 2.46 which are significant at the .05 to .01 levels. Thus, United States residents in PM&R and in internal medicine scored significantly higher than these foreign groups respectively on measures of Ascendancy, Responsibility and Sociability. There is no difference, however, between the United States and foreign surgeons on the same measures.

Comparisons among the specialties by t test yielded the following results. On the measure of Responsibility, none of the t values were significant for the United States specialties. Among the foreign residents, the surgeons scored significantly higher than both the PM&R and internal medicine residents, $t = 3.6$, $p < .01$, whereas no difference was found between the PM&R and internal medicine groups. On the Emotional stability measure, United States surgeons scored higher than the PM&R and internal medicine residents, $t = 2.6$, $p < .01$. The difference between the PM&R and internal medicine groups was insignificant. Among the foreign residents, the only significant t value on the Emotional stability measure was between the surgeon and PM&R groups, $t = 1.93$, $p < .05$.

The hypothesis that United States medical residents score higher on measures of Ascendancy and Responsibility than foreign medical residents was thus supported only for the internal medicine and PM&R groups. It was not sustained however for the surgeons. The hypothesis that surgeons, regardless of nationality, score higher on the measure of Responsibility than residents

TABLE 3

SUMMARY OF THE ANALYSES OF VARIANCE OF THE SCALE SCORES OF UNITED STATES AND FOREIGN MEDICAL RESIDENTS

Source	df[a]	Ascendancy		Responsibility		Emotional stability		Sociability	
		MS	*F*	*MS*	*F*	*MS*	*F*	*MS*	*F*
Resident (U.S. and Foreign) (A)	1	343.00	13.55**	84.50	4.60*	112.07	3.58	455.17	14.74**
Medical specialty (B)	2	13.53	.53	89.26	4.86**	180.66	5.78**	14.02	.45
A × B	2	37.88	1.49	116.40	6.33**	26.86	.86	37.56	1.22
Within cell	275	25.31		18.36		31.23		30.87	

[a] Degrees of freedom were identical on all four scales.

* $p < .05$.

** $p < .01$.

in other medical specialties was supported only for the foreign residents but not for the United States groups.

D. Discussion

That United States medical residents, in contrast to college men, tend to perceive in themselves characteristics which support a stereotype of a responsible, emotionally stable, and self-assertive individual is not a startling finding when one considers the differences in their respective educational training. Early in their medical training, physicians are taught to assume responsibility for their patients in making decisions affecting their health and welfare. This training appears to encourage a self-concept based on characteristics of responsibility, self-assertion, and emotional stability. United States male college students in general have no comparable educational experiences that specifically encourage assuming responsibility for the care of another individual.

To what extent male college students' lower scores on traits of Ascendancy, Responsibility, and Emotional stability are based on their lack of these specific training experiences is a question which cannot be answered by the present study. It is possible that individuals who already possess a considerable number of the traits related to membership in a particular group enter that group more often than individuals who initially do not possess the shared traits. Administration of the Gordon Personal Profile to a group of entering first-year medical students and to a comparable group of first-year nonmedical graduate students with a follow-up upon the completion of training could provide information regarding the extent to which medical students already possess the traits under discussion and to what extent the medical training contributes, at least on a self-reporting basis, to those traits. The implications of results in such a study are self-evident for medical education and for the selection procedures for medical training.

That the United States medical residents resemble the managerial type of individual, particularly the second-level executive type, which probably more closely resembles the United States medical residents in age and cultural experiences, would appear to corroborate the results of McDonald's (7) study. It would seem that the duties of managerial personnel as well as of medical residents encourage responsible leadership. Rather clearcut evidence thus emerges from the data to support the existence of a cultural stereotype of the medical-managerial practitioner in the United States. Of greater interest, however, is the emerging evidence from the data to support the existence of a similar stereotype, regardless of nationality, based on vocational factors. The similarity that emerges from the data between the United States residents

and the foreign surgeons as well as between the second-level executives and the foreign surgeons must be attributed to vocational rather than cultural factors.

In addition to the findings based on the Gordon Personal Profile scores, there is evidence that the foreign surgeon is more readily accepted as a physician in the United States than his foreign colleague in internal medicine and PM&R. To cite but two examples: United States supervisors rating foreign residents in the study on a five-point scale on the characteristic of responsibility, rated 54 per cent of the surgeons in the superior category in comparison to 35 per cent and 32 per cent of the foreign residents in PM&R and internal medicine, respectively. The marriage pattern of the foreign residents in the United States is another indirect telling illustration. While on the average, 56 per cent of the foreign residents included in this study were married, the number and percentage of them who married United States women is markedly different among the groups. Thus, of the 39 married PM&R residents, 6 or 15.4 per cent married United States women, and of the 28 residents in internal medicine, 7 or 25 per cent married United States women. In contrast to these figures, of the 28 foreign surgeons, 12 or 42.9 per cent married United States women.

While these two external findings are admittedly debatable ones and indirect evidence for the foreign surgeons' greater acceptance in the United States, nevertheless in combination with the results of their Gordon scores and their similarity to the United States residents and to the second-level executives' scores, the indications are that the surgeons are more likely to perceive themselves according to the United States physicians' stereotype than other foreign medical specialists.

In considering the lower scores of foreign residents on the Sociability measure as compared to United States residents, the possibility must be kept in mind that situational factors in addition to, or rather than, cultural factors may be influencing the foreign medical residents' self-concept. Adjustment to a new environment often entails the unpleasant experience of cultural shock (6), which has been described as a subjective feeling of loss, isolation, and loneliness. Additional information could aid in clarifying the casual relationships embedded in the foreign physicians' self-concepts. A similar study of foreign medical residents training in their own home countries could provide more definitive information regarding the extent to which the stereotype of the United States physician is culture-bound or vocation-bound, as well as information about the foreign cultural stereotype of physicians. The results from such a study could provide clues and needed information to aid the

foreign medical trainee in his adjustment to the relatively competitive United States culture and enhance his chances of benefiting from his stay in the United States.

A cross-cultural study of the type suggested would also shed considerable light on the interspecialty differences found among the residents in this study. It could help answer certain questions: e.g., Are foreign surgeons who remain in their home countries more similar to United States physicians than are members of the other foreign medical specialties? Is the similarity of the United States physician to the foreign surgeon who comes to the United States for his residency training a reflection of the foreign physician's greater adaptability? Is the surgeon's craft more easily applicable across cultural boundaries than the craft of other specialists who to a large extent depend upon and are judged by that elusive entity known as "doctor-patient relationship"?

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EGOCENTRIC THOUGHT IN PETITIONARY PRAYER: A CROSS-CULTURAL STUDY*

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A. Introduction

Apart from the work of Welford (5) and Godin and Van Roey (2), there has been little attention given by recent psychologists to beliefs about prayer. This is a strange deficiency as prayer is an important religious activity, and for Christians it is a means of establishing contact with the supernatural order. Petitionary prayer may be used to find "the will of God," to obtain spiritual benefits, or for anticipated modification of the environment to give material benefits. Although *modification* may be expected, a mature attitude probably sees prayer as a mode of direct *communication* with God.

There are no satisfactory studies of the prayers that children offer spontaneously, but the findings of Godin and Van Roey (2) and Thouless and Brown (4) suggest that children believe in the causal efficacy of prayer, in the sense that the objects of petitions are thought to be observably obtained.

Prayer, psychologically, belongs to the same class of behavior as magic formulae (spells and charms), particularly at an immature level when these expressions may be essentially egocentric. Piaget's concepts of "egocentricity" and "decentering" have been applied beyond perceptual processes (1, p. 400): egocentricity shows in communication when a child assumes that stating a request guarantees its being granted. There is a clear parallel here with the belief that prayer will be effective in achieving material change. Thouless and Brown found an age trend away from belief in the causal efficacy of petitionary prayer, which suggests a decentering process in these beliefs through adolescence. There is no parallel change with age in beliefs about the appropriateness of prayer, which are related instead to religious denomination.

Welford found that a set of situations varied in the extent to which they were believed to be suitable for praying about. A similar finding is reported by Thouless and Brown, who adapted for group administration the method that Godin derived from Piaget, and asked about the efficacy and the appropriateness of petitionary prayer over a set of situations roughly scaled for

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TABLE 2

SHOWING PERCENTAGES OF UNQUALIFIED AFFIRMATIVE ANSWERS TO THE QUESTIONS CONCERNING CAUSAL EFFICACY (E) AND APPROPRIATENESS (A)

Age	Miss Smith E	Miss Smith A	Fête E	Fête A	Match E	Match A	Debt E	Debt A	Battle E	Battle A	Shark self E	Shark self A	Grandmother knew E	Grandmother knew A	*N*
Boys															
U.S. $\overline{X}$	6	17	31	64	39	60	49	82	43	58	52	95	56	94	233
12-13	11	18	42	66	47	79	58	87	47	58	68	95	55	97	38
14-15	6	15	35	73	44	59	57	89	45	58	53	94	54	93	85
16-17	5	17	23	57	33	54	39	75	40	57	45	96	58	94	110
N.Z. $\overline{X}$	8	22	25	62	22	51	30	74	36	46	36	88	55	80	76
12-13	22	22	50	78	33	61	50	83	61	50	44	94	67	94	18
14-15	7	26	26	65	29	58	29	71	36	58	36	87	58	77	31
16-17	0	19	7	48	7	37	19	70	19	30	30	85	44	74	27
Aust. $\overline{X}$	3	9	34	74	24	44	39	76	48	63	53	89	63	88	89
12-13	8	8	48	84	32	44	44	68	52	68	68	88	76	92	25
14-15	0	16	29	79	21	50	42	87	50	66	47	92	66	90	38
16-17	4	0	27	58	19	35	31	69	42	54	46	85	46	81	26
Girls															
U.S. $\overline{X}$	5	8	24	55	43	61	47	74	47	68	50	91	56	95	256
12-13	10	10	44	63	54	73	66	68	66	73	63	98	56	98	41
14-15	6	16	25	57	41	59	46	75	45	70	42	91	57	94	69
16-17	3	4	18	51	42	58	43	75	43	65	50	90	55	95	146
N.Z. $\overline{X}$	7	15	25	70	42	64	45	81	50	56	53	94	54	95	187
12-13	10	20	39	76	59	68	54	90	49	66	76	95	54	95	41
14-15	8	19	20	64	40	66	44	79	54	52	48	92	56	94	98
16-17	2	4	23	75	29	54	38	79	42	54	44	96	50	96	48
Aust. $\overline{X}$	5	9	23	59	35	57	39	68	45	62	46	86	51	85	260
12-13	9	9	36	65	47	65	48	73	52	64	52	85	60	89	75
14-15	5	10	18	54	33	52	38	67	43	62	45	84	49	85	129
16-17	2	7	16	59	23	55	29	64	38	59	41	91	43	80	56

The item concerning prayers for fine weather for a church fête is also believed to be rather unsuitable for prayer, judging by the frequency of response to the questions about efficacy and appropriateness, although in all groups it is thought a more suitable and effective situation for prayer than was Miss Smith's. No more than eight per cent of any cultural group expressed belief in the efficacy of Miss Smith's prayer, while no less than 23 per cent stated a belief in the effectiveness of prayer for fine weather ($t = 1.5$). The church fête item also shows, by inspection, a clear age trend away from belief in causal efficacy through the age groups 13-14 to 17-18. The same trend occurs in all other items for each group. Belief in the appropriateness of prayer is expressed more often than belief in its causal efficacy by all cultural groups.

In all items there is therefore a trend with age away from belief in the

causal efficacy of prayer, a greater frequency of belief in the appropriateness of prayer than in its causal efficacy, and a clear scaling of situations through belief in the efficacy of prayer. This scaling is very similar from one cultural sample to another, and the mean frequencies, for all groups combined, of unqualified belief in the effectiveness of prayer are for Miss Smith's theft 5.7 per cent, the church fête's weather 26.7 per cent, before a football match 34.2 per cent, for the repayment of a debt 41.0 per cent, before a battle 44.8 per cent, to escape a shark 48.3 per cent, and for the ill grandmother (if she knew she were being prayed for) 57.2 per cent.

There is less consistency among cultural samples in answers to the question about the appropriateness than about efficacy of prayer because although the rank order correlation between the two questions is + .79, differences in the rank order of items for appropriateness occur only between the cultural groups and not between boys and girls within cultures. It would seem that belief in appropriateness is influenced by cultural values and, perhaps, by specific religious teaching. The effects of religious teaching were more clearly shown in the earlier study because items were included there which related directly to the differences in the moral judgments between denominations—e.g., prayer for a bet on a horse race (4). In the present results the greatest rank differences between the cultural samples in belief in appropriateness occur on the football match, battle, and church fête items, largely because the United States and the Australian samples have a greater proportion approving of prayer for a battle than does the New Zealand sample. Prayer to avoid detection of a theft was the least approved by all groups (13.2 per cent of affirmative answers overall). Similarly the mean percentage approving of prayer for the football match, over all groups, is 56.2, for the battle 58.5, and for the church fête's weather 64.0 per cent. Prayer for the repayment of a debt stands fifth in all groups (72.5 per cent believed it appropriate), while the shark escape and prayers for the sick grandmother were the most approved (89.2 per cent and 90.2 per cent, respectively). This grouping of these situations probably depends on the closeness of a direct threat to life. Spontaneous comments about the shark-escape item, for example, suggested that to pray is the only thing left for the boy to do. In the case of prayers for the grandmother, there is a slight tendency for more to believe that the prayers she knows about will have effect compared with those of which she is unaware (see Table 3). This finding suggests that such prayers are thought to have a reflexive effect. It also shows a form of egocentricity in which awareness and personal involvement is thought necessary to ensure an effect in a situation where life is threatened and prayer appropriate.

TABLE 3

PERCENTAGES OF UNQUALIFIED AFFIRMATIVE ANSWERS SHOWING BELIEF IN THE EFFICACY OF PRAYER FOR THE SHARK ESCAPE AND THE ILL GRANDMOTHER AS WELL AS THE CHILD'S OWN EXPERIENCE OF PETITIONARY PRAYER

Age	Shark		Grandmother		Prayed for		
	own	other	unaware	known	favors	success	*N*
Boys							
U.S. $\overline{X}$	52	52	53	56	79	56	233
12-13	68	66	68	55	84	58	38
14-15	53	65	51	54	74	62	85
16-17	45	36	49	58	82	51	110
N.Z. $\overline{X}$	36	34	22	55	67	47	76
12-13	44	61	28	67	56	39	18
14-15	36	32	26	58	45	29	31
16-17	30	19	15	44	59	22	27
Aust. $\overline{X}$	53	39	40	63	67	47	89
12-13	68	48	48	76	68	64	25
14-15	47	37	42	66	63	42	38
16-17	46	35	31	46	73	39	26
Girls							
U.S. $\overline{X}$	50	46	52	56	91	72	256
12-13	63	61	49	56	88	73	41
14-15	42	44	61	57	90	77	69
16-17	50	43	48	55	93	69	146
N.Z. $\overline{X}$	53	51	46	54	74	45	187
12-13	76	59	61	54	78	49	41
14-15	48	47	38	56	71	43	98
16-17	44	52	50	50	77	46	48
Aust. $\overline{X}$	46	41	43	51	80	65	260
12-13	52	51	45	60	83	71	75
14-15	45	42	41	49	81	74	129
16-17	41	25	43	43	77	61	56

The consistent age trend away from belief in causal efficacy (which does not appear in the questions of appropriateness) suggests a decentering of these beliefs. That this process continues is shown in a minor extension to university students in South Australia, where in a group aged 20-21 ($N = 76$), eight per cent believed prayer could affect a football match and 10 per cent believed prayer could affect a battle. Further research is needed to plot in detail the manner in which these religious beliefs change by decentering. Perceptual processes are decentered at about the age of 12, while belief in the causal efficacy of prayer is not fully decentered at age 18.

Each subject supplied information about his religious denomination, and answers to the questions about efficacy and appropriateness were analyzed separately for the Roman Catholic, Protestant, and "no denomination" groups. Among the girls there were enough belonging to the Church of England or

the Episcopal Church for them to be considered separately. Within each denomination there is the same pattern of response that has been described for the three age groups, and although there are minor differences in frequency of response between denominations, these are not consistent and do not suggest significant differences either between denominations or across cultures. The items for this study, however, were chosen to minimize such differences.

To explore the formulations of prayer believed to be most suitable, two kinds of question were asked. In the items concerning the football match and the battle, subjects were to choose from six alternative forms the one which they considered the best prayer, and in the shark-escape item to suggest the kind of prayer the boy might have offered when he was in the sea. The results from the prayer choices for a battle and a football match are shown in Table 4. Choices were not distributed evenly over all the alternatives, although they were expected to give a trend with age away from a simple plea for assistance and so show the decentering process. The replies may, however, have reflected the subjects' specific training in prayer. Thus prayers for "direct modification" may have been thought too obvious. Some comments suggested that this was the case, particularly with one alternative (B) for which a few noted that "victory should not be asked for." Others emphasized that "skill" in the match or "courage" in the battle is more suitably sought through prayer. The actual wording influenced some choices (particularly in F, "Lord, give us skill to play a good game this afternoon," where the use of skill seems to have implied good sportsmanship).

Children, even if in peripheral contact with Christianity, learn about

TABLE 4

PERCENTAGE IN EACH MAIN SUBGROUP CHOOSING EACH OF THE PRAYERS IN THE FOOTBALL MATCH AND BATTLE ITEMS

	Match							Battle							
Subjects	A	B	C	D	E	F	?	A	B	C	D	E	F	?	*N*
Boys															
U.S.	1	6	14	4	26	39	9	5	12	18	3	3	51	8	233
N.Z.	12	16	1	2	33	29	7	5	11	17	3	11	43	11	76
Aust.	2	13	13	0	31	39	1	7	17	17	3	3	50	2	89
Girls															
U.S.	0	13	19	1	16	48	3	3	13	18	3	3	57	4	256
N.Z.	0	16	6	0	28	47	2	4	11	10	1	5	65	4	187
Aust.	1	19	14	0	24	40	1	4	14	14	1	4	61	2	260

Note: The key to alternatives is as follows: A = Lord, grant us victory. . . . B = Lord, let Thy will be done. . . . C = Lord, if it be Thy will, grant us victory. . . . D = Reward us, who have prayed for help, with victory. . . . E = Lord, grant that whichever is the better side may win. . . . F = Lord, give us skill (courage). . . .

prayer and assimilate customary attitudes, and it seems that this contact has influenced the choice from the alternative prayers. Welford reports a similar finding (5). Despite the absence of predicted age trends and the limitations imposed by the restricted alternatives, there are some interesting differences between prayers chosen for the football match and the battle. The two most popular prayers for the football match were E ("Lord, grant that whichever is the better side may win . . .") and F ("Lord give us skill to play well . . ."). The least popular were A ("Lord, grant us victory . . ."), B ("Lord, let Thy will be done . . ."), and D ("Reward us, who have prayed for help, with victory . . ."). For the battle, prayers D and A were the least popular, but E was also unpopular. Significantly more made F their first choice for the battle than for the match ($t = 1.96$ for the smallest difference), in each of the cultural groups. Clearly, alternatives E and F are equivalent for football, while this is not the case for a battle, because there "courage" is needed. When reasons for making a choice were examined it was seen that the answers emphasized not the *form* of petition but the apparent needs of the people in the situation. It is also clear that a conditional request (e.g., "Lord, if it be Thy will, grant us victory") or an indirect request (e.g., for skill or courage) is more popular than a direct petition for victory. This finding suggests that in these choices "communication" is more important than direct "modification."

A further question asked whether the choice of prayer for a football match should differ from that for a battle. Again no consistent patterns emerged from the data, except that the samples of girls all gave very similar replies (63 to 69 per cent believing that it should differ). There were 79 per cent of the Australian boys who believed that there should be a difference in these two situations, compared with 58 per cent of the New Zealand boys and 67 per cent of the United States boys.

Differences between the choices of those in the different denominations are unimportant in the present context, apart from the slight tendency for those with "no denomination" to choose alternative E ("Lord grant that whichever is the better side may win") rather than F ("Lord give us skill or courage"). It is probable that prayer as a communication is emphasized in children's instruction, while the element of modification is spontaneously added by the child's egocentric view of the world and called into play when he is faced with a situation for which he does not have a fixed solution. Further inquiry is needed to relate these replies to the manner in which children are taught about prayer. It is clear from the answers given to the question about the kind of prayer that might have been offered in the shark-escape situation, that specific training has influenced the prayers suggested. To present a

detailed analysis of these prayers would add little to the present discussion, as there are no age trends in this material. However the Protestants very commonly suggested a directed prayer for help, or to be saved (e.g., "Please Lord, help me escape death"), or for courage or strength. A few phrased the plea conditionally (e.g., "Dear God, help me, if it be Thy will"). Roman Catholics typically suggested a prayer for forgiveness (e.g., "An act of contrition in case he would die") or a formal prayer (e.g., "Three Hail Marys because he is asking the Virgin to help him"). A few suggested petitions concerning the shark ("If the will of God is to have him saved, then keep the shark away") or to the man in the boat ("To guide the man in the right path"). These last suggestions occurred infrequently, but they indicate some of the questions that must be taken into account in a psychological study of prayer.

The final questions asked whether specific favors had ever been prayed for and if "any of your specific prayers have ever been answered?" There are differences here between the cultural groups although again without any consistent age trends. The group of U.S. girls is the one with the greatest percentage who have prayed for specific favors (91 per cent), with the Australian girls and the U.S. boys next in order (80 per cent and 79 per cent, respectively). The New Zealand girls are next (74 per cent) while the New Zealand and the Australian boys each have 67 per cent. These figures suggest that there are differences between these cultures in the accessibility of prayer as a means of seeking help. Over all the groups there are 20.8 per cent fewer who believe that they have gained specific benefits than have prayed for them. This difference is least for the U.S. girls (19 per cent) and greatest for the New Zealand girls (29 per cent). The only age trends in these results show a decrease with increasing age in the use of prayer by the New Zealand and the Australian boys.

By inspection, the cultural samples were seen to be homogeneous in their answers to the question "How much would you say you know about religion, compared with others of your own age?" The samples differed in the stated frequency of church attendance (Table 5). The U.S. girls have the greatest percentage attending church at least weekly (72 per cent), followed by the Australian girls (68 per cent), U.S. boys (55 per cent), New Zealand girls (44 per cent), Australian boys (33 per cent), and New Zealand boys (21 per cent). The difference between the frequencies for boys and girls is significant for each group ($\chi^2_3 = 17.9$ for the U.S., 25.8 for N.Z., and 47.4 for Australians). However, in all cultural groups frequency of church attendance was

TABLE 5
PERCENTAGES OF CULTURAL SAMPLES IN EACH CATEGORY FOR CHURCH ATTENDANCE AND KNOWLEDGE OF RELIGION

	Church frequency				Knowledge of religion			
	1	2	3	4	1	2	3	4
Boys								
U.S.	55	11	14	19	12	71	14	3
N.Z.	21	7	25	47	8	62	26	4
Aust.	33	9	17	41	17	70	10	3
Girls								
U.S.	72	7	13	8	17	74	8	1
N.Z.	44	16	20	20	9	79	8	5
Aust.	68	11	10	11	12	83	4	2

Note: The key to categories for church frequency is as follows: 1 = I go almost every week. 2 = I go about once every 2 or 3 weeks. 3 = I go once a month or less. 4 = I don't go at all. The key to categories for knowledge of religion is as follows: 1 = More than most people of my own age. 2 = About as much as other people of my age. 3 = Quite a lot less than others of my age. 4 = Don't know.

unrelated to the choice of a prayer for either the football match or the battle. When the answers of high ("almost weekly") and low ("I don't go at all") groups were compared in their answers to other questions, there were no consistent patterns that warrant separate discussion although some differences were observed. As these are similar for each culture, they have been aggregated. Thus, 10 per cent of frequent attenders and 19 per cent of those who never go thought it appropriate for Miss Smith to pray for her theft to be undiscovered. On the other hand, a greater percentage of frequent attenders believe in both the appropriateness and the effectiveness of prayer for fine weather for a church fête (31.5 per cent and 15 per cent of nonattenders believe in its appropriateness) and the effectiveness of prayers to escape a shark (for the boy's own prayers the percentages are 56 and 31, and for the man rescuing the percentages are 49 and 29.5). Prayers for the grandmother, if she did not know she was being prayed for, were believed to be effective by 53 per cent of weekly attenders and by 28 per cent of nonattenders. These results would be predicted and suggest that in some items experience and exposure to religious teaching influence replies and provide support for belief. The cultural differences in religious practice have little effect on beliefs about prayer.

D. CONCLUSIONS

The main results from this study show that belief in the causal efficacy of petitionary prayer is related to age, that this relationship is stable across three Western Christian cultures, and that the level of belief varies with the

moral circumstances of the prayer. Because the trend shows a movement away from belief in the efficacy of petitionary prayer with an increase in age, it is interpreted as reflecting a "decentering" process, which has, however, not been completed by all in these samples at age 18. This interpretation implies that belief in the causal efficacy of petitionary prayer is a mode of egocentric thought. Beliefs about the appropriateness of petitionary prayer are not related to age.

Belief in the causal efficacy of prayer in the situations studied is related to the suitability or appropriateness of a particular situation for prayer. Thus egocentric responses occur more frequently in some situations than in others, with these differences depending either upon religious training or upon assumptions about the ways in which prayer is believed to operate. The moral evaluation of situations in which prayer is offered is the most important variable influencing belief about the suitability of prayer and shows one way in which training overlays the age trend. The effects and limits of religious teaching require more study than has yet been given to them. This study has shown that situations involving moral disapproval, intervention with natural processes, and trivial actions are thought to be relatively unsuitable for prayer and are also those in which prayer is believed to be relatively ineffective, particularly when compared with the greater effectiveness of prayer in situations of *personal* danger. Thus, although there are no age trends in beliefs about the appropriateness of the prayers, situations can be scaled in terms of their suitability for prayer.

These results suggest two (age-related) stages in the development of prayer between the "magical mentality" and the "sacramental mentality" postulated by Godin and Van Roey (2) to be typical of young children. Magical mentality (in which the words are effective as a behavioral act) differentiates to an egocentric mode, characterized first by expected "modification" and control of the environment, and later by "communication." The egocentric stage appears to break down and "decenter." When this occurs it is still thought appropriate to offer prayers in certain situations, but there is no expectation that they will necessarily be effective.

Although Piaget (3) noted that "not every exchange between the child and his environment is adaptive," the child clearly must structure his experience; and this process is influenced by specific teaching. Thus when a child is taught to *use* rather than to *offer* prayer and has available rationalized explanations for his "unanswered prayers," he may be protected from a realistic interpretation of his experience. (Note that many pious books for children convey the expectation that all prayers are answered.) Further study is

needed of the ways in which children interpret their experiences with prayer and particularly the expected success or failure of prayers in relation to cognitive development and the manner in which religious instruction has been given.

E. Summary

Children aged 12 to 17, in the United States, Australia, and New Zealand, answered questions about their belief in the efficacy and appropriateness of prayer for seven situations. In the answers there was a consistent age-related trend away from belief in the causal efficacy of petitionary prayer. No similar trend was obtained in answers concerning belief in the appropriateness of prayer, which are instead influenced by instruction concerning adult approved requirements.

The situations employed were found to vary in both their suitability for prayer and the believed effectiveness of prayer, depending on moral approval and the closeness of a threat to life. The results are interpreted as showing a decentering in those beliefs about prayer which are not the subject of direct teaching. Apart from some differences in the level of response, the findings are all consistent across three Christian cultures.

Appendix

Items Concerning Football Match and Shark Escape Situations

a. Football match. The principal of a school asked some of the senior boys to discuss a suitable form of prayer for use in the school assembly on the morning of the school's football game against another school. A part of the discussion was as follows:

> *Adams*—Let us have something quite simple. I suggest,
> (A) "Lord, grant us victory in the match this afternoon."
> *Black*—I don't think we ought to ask for victory. I would rather we said,
> (B) "Lord, let Thy will be done in the match this afternoon."
> *Clark*—That doesn't ask for anything. We do want to win. Couldn't we have something like,
> (C) "Lord, if it be Thy will, grant us victory in the match this afternoon."

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(1). If you had been at the meeting and had been asked to vote on one of these forms of prayer, which would you have voted for?

(2). Why would you have voted for this one?

The discussion went on:

Davis—I think we ought to pray to win the match; that is what we want. Perhaps just asking for victory is too crude. Why not have a prayer like one of the Collects in the prayer book?

(D) "Reward us, who have prayed for help, with victory in the match this afternoon."

Evans—That is still asking that we shall win. Why not,

(E) "Lord, grant that whichever is the better side may win this afternoon."

Field—What is the good of asking that the better side shall win? What we want is that the better side shall be us. Perhaps we ought not to pray just to win. I think we should pray,

(F) "Lord, give us skill to play a good game this afternoon."

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(1). If you were now asked to vote for one of the second three prayers, which would you vote for?

(2). Why would you vote for this one?

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(1). Which of the two prayers you now have voted for do you think is the better?

(2). Why?

(3). Do you think that the use of this prayer would have any effect on the outcome of the match?

(4). Is it right to pray in this way?

b. Shark escape. James fell into the sea from a yacht. He started to swim towards the boat that was coming to rescue him, but saw the black fin of a shark between him and the boat. He prayed that he might escape the shark.

(1). Was James right to pray for his escape?

(2). What kind of a prayer might he have offered?

(3). Would the fact that James prayed make it more likely that he would escape?

(4). If the man in the boat rescuing James prayed too, would James be even more likely to escape?

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GOODENOUGH SCORES, ART EXPERIENCE, AND MODERNIZATION*[1]

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A. INTRODUCTION

Florence Goodenough published "The Measurement of Intelligence by Drawings" in 1926, only ten years after the appearance of the Stanford-Binet. It was published at a time when there was considerable confidence on the part of psychologists that mental tests measured differences due primarily to heredity, rather than to environment. This interpretation was applied to differences between groups as well as to individual differences.

As a possibly "culture-free" test, the Draw-a-Man Test had much to recommend it. It is nonverbal, it has little relationship to academic subject matter, and the referent to be drawn is universally familiar.

Goodenough, in 1926, the same year in which her book appeared, reported large differences between groups of American children of different racial and ethnic origins. While some effect of environment was acknowledged, these findings were given an interpretation which was chiefly biological.

But doubts soon arose that "intelligence" tests could be "culture-free." Doubts became stronger when some groups were found to test higher than American whites. We believe we were the first to report such a finding in respect to the Draw-a-Man Test (2). Hopi Indian boys, aged 8 to 11 years,

* Received in the Editorial Office, Provincetown, Massachusetts, on December 10, 1965, and given special consideration in accordance with our policy for cross-cultural research.

[1] A very large number of persons have assisted in collecting and scoring the data from the 40 groups which are discussed in this paper. Unfortunately, for various reasons, specific acknowledgements cannot be given to all of them.

We are especially indebted to Dr. Elaine Kinder, who made available to us for the purposes of this study unpublished data gathered in Yucatan and on the Navaho reservation by the late Morris Steggerda between 1931 and 1936. These drawings were scored by Dr. Kinder.

We wish also to especially acknowledge the assistance rendered by Professor Koji Saito, Cecile Finley, Marsena Pettijohn, Mona Haas, Khyrallah Assar, Yvonne Sayegh, and Adele Hamdan Takydin. Specific acknowledgement of the contribution of Professor Solomon Weinstock to the statistical treatment of the data is contained in the text.

Many of the data were gathered while we were engaged in field work which was made possible by grants from the Social Science Research Council and by grants from the Rockefeller Brothers Fund to the American University of Beirut. Our two years as a visiting professor at the American University of Beirut were esssential factors in the completion of the study.

were found to have a mean Goodenough *IQ* of 123. We suggested that this mean was due to the high development of certain kinds of representational art among Hopi men and to the early involvement of Hopi boys in this art. Havighurst *et al.* (11) confirmed our findings in respect to Hopi scores and in addition reported that boys of several other southwestern Indian groups also had high Goodenough means. In general, southwestern Indian girls who play a lesser role than boys in southwestern Indian art, tested significantly lower than the boys.

In 1950 in a review of research on children's drawings, Goodenough and Harris said (9, p. 339): "The present writers would like to express the opinion that the search for a culture-free test, whether of intelligence, artistic ability, personal-social characteristics, or any other measurable trait is illusory, and that the naive assumption that mere freedom from verbal requirements renders a test equally suitable for all groups is no longer tenable. The studies by Dennis and by Havighurst point the moral very clearly so far as the Draw-a-Man Test is concerned." Since 1950 a considerable body of additional data have corroborated the view expressed above [see Harris (10)].

But it does not suffice to deny that the Draw-a-Man Test, or any other test, is a test of native ability. If differences in scores are not due to biological causes, they must be due to other causes. These other causes should be found. While environment is the alternative to heredity, a specific accounting for agents producing environmental differences is necessary.

It is proposed in this paper that differences between societies in children's Goodenough scores are due primarily to group differences in their experience with, and participation in, representational art. It is further proposed that in many societies Goodenough scores are indirect indices of modernization, since for many groups Western civilization and modern education provide to children their chief experiences with representational art.

Let us state these hypotheses in detail. It is proposed that groups of children differ greatly in respect to Goodenough scores because of differences in their acquaintance with representational art and in their stimulation to produce it. But the differences in drawing performances are not due entirely to differences in acquaintance with Western art. Groups having little experience with Western art nevertheless show wide contrasts in Goodenough scores. This is because some non-Western groups have reached a high level of achievement in respect to several forms of art, such as wood carving, sculpture, decorated pottery, masks, or sand-painting. In such groups we would expect children to earn high Draw-a-Man scores. That is, in societies in which

children have had little or no exposure to Western mass media, the Draw-a-Man scores will reflect the level of native representational art.

In Western societies there is today a great amount of representational art presented in visual mass media, such as newspapers, magazines, picture books, textbooks, comic books, billboards, placards, movies, and television programs. These influences impinge upon almost all Western children. They also impinge upon children in some non-Western societies, but the exposure differs according to the degree of modernization.

Usually when groups are exposed to newspapers, placards, photographs, etc., they are at the same time exposed to other Western influences, such as urbanization, technological changes, medical care, sanitation, education, etc. It is therefore proposed that in societies which had few visual arts of their own prior to Western contacts there will be a progressive increase in their Draw-a-Man scores as acculturation occurs, an improvement which will provide a rough index of cultural change.

These propositions do not deny that individual differences in Goodenough scores within a group that is relatively homogeneous in culture are due largely to heredity or to other biological causes. The present paper presents no data on this problem; it is concerned only with differences between groups that differ considerably in respect to native art or in respect to modernization, or in respect to both. It is limited to a consideration of data obtained from the Draw-a-Man test. Analogous data could probably be presented in respect to group differences on other "intelligence" tests. Few tests, however, are likely to be so directly related to exposure to representational art as is the Goodenough test.

We will first present data from groups which differ considerably in Goodenough scores and will then attempt to determine whether these differences are related to representational art and acculturation as proposed above. Alternative explanations of group differences will be considered, and the effect of social change will be explored.

B. Sources of Data, and Procedure in Gathering Data

The Draw-a-Man Tests to be considered come in part from a collection of children's drawings which we have accumulated over a period of years. In making the collection we have aimed at obtaining drawings from groups which are diverse in culture. Three continents and 11 countries have contributed drawings. Nevertheless, the subjects who contributed to the collection are by no means a random sample of the world's children.

Most of the subjects were tested while attending school. A few results are presented from communities not having schools.

The majority of the data to be reported were collected under our own auspices, but use is made of some data published by others.

The data obtained under our supervision were, for the most part, obtained in our presence. To English-speaking subjects, we gave the instructions ourselves. To non-English-speaking subjects, the instructions were dictated to an assistant who was competent in English and in the native language. The instructions were those used by Goodenough (8).

In the case of some groups we were not present when data were gathered. In all such instances the drawings were obtained by a person thoroughly briefed in respect to Goodenough procedures. No drawings were obtained by teachers or by school officials, although such persons were sometimes present in the classrooms which were being tested.

In collecting data for this study, we have usually tested all children in grades 1-5, inclusive, who were attending school on a given day. In rural communities and villages, this means we obtained 100 per cent samples of pupils in attendance on that day. In towns with two or three schools, we often tested grades 1-5 in all of the schools. In large cities, 100 per cent samples of an entire city were not feasible. Here we tested grades 1-5 in one or more schools in a poor neighborhood and one or more schools in well-to-do neighborhoods. The results of such testing are presented separately for the two socioeconomic groups. It is felt that nearly all children in what are called poor neighborhoods were classifiable as lower class and that those in neighborhoods called well-to-do were primarily middle-class. Urban schools in which children are from diverse socioeconomic origins are not represented in our data.

The classification of a neighborhood as poor or well-to-do was based upon information supplied by local informants and by inspection of the neighborhood.

No effort was made to obtain "upper-class" groups, although there were a few upper-class children in schools described as middle-class. A "private school" is attended chiefly by upper-middle class pupils but usually a small number of upper class children also attend the school.

The term "group" as used in this paper refers to those children attending school in a particular community, village, town, or urban neighborhood. It is not used in a sociological sense, although some of our groups may have constituted social groups as defined by others.

We have chosen to present data primarily for six-year-olds, although some

data will be presented for older children. Our choice of six-year-olds as the primary source of data for this paper was based upon the desire to minimize the direct effect of education upon Goodenough scores. In most communities, nearly all six-year-olds are in school, but they have been in school only for a short time. Hence differences between groups of six-year-olds cannot be due in major part to differences in amount of schooling. Nevertheless, since testing was done at various times during the school year, some six-year-olds had been in school longer than others at the time they were tested. Later we shall show that the Goodenough mean *IQ* of six-year-olds seldom differs by more than a few points from the mean *IQ* of seven-year-olds tested at the same time, and who, for the most part, have received an additional year of schooling.

In some communities, children enter kindergarten or first grade at age five, or even earlier. It might be thought that if we wished to avoid school influences, we should present data for children in their first year of school, whatever their ages. In fact, we tried this procedure but found a systematic difference in Goodenough *IQ*s in favor of five-year-olds as compared to six-year-olds. This is probably due to selection; i.e., it is likely that the bright child is considered more suitable for entering kindergarten than the ordinary child or dull child. In any case, we wished where possible to obtain 100 per cent samples and since school attendance is seldom compulsory before age six, 100 per cent samples cannot be obtained before that age.

In a few schools in which the usual age at entering school is greater than six years we have used data from older groups. In small schools, the data from two or more age levels were combined to obtain an adequate number of subjects. We have attempted to obtain in each group at least 25 children, but this was not always possible.

Boys and girls are separated in presenting our data, except for groups in which the numbers of boys or of girls of the desired age were too small to justify separate presentation.

The age-data necessary for computing *IQ*s were obtained, when possible, from records in the school files. When date of birth was not available in the school files, age was determined by questioning the child or the teacher. When age was reported in terms of years (i.e., "I am six years old"), a report of this kind was understood to mean that the child was between 6.0 and 6.99, and hence the midpoint of this interval, 6.5, was used in computing the *IQ*.

In addition to new data, we have made use of some data previously published. Where this has been done the author and the date of the original source are shown in Table 1 immediately following the name of the group. If such a reference does not appear, the item refers to new data.

TABLE 1
MEAN *IQ*s OF VARIOUS GROUPS

Group	Sex	Age	*N*	*IQ*	*SD*	Date of testing
1. Larned, Kansas	BG	6	25	125	27.2	1957
2. Kyoto, Japan	G	6	13	124	13.9	1958
3. Kyoto, Japan	B	6	12	123	13.9	1958
4. Rockville, Maryland (Whites)	G	6	25	119	19.4	1957
5. Armenian priv. sch., Beirut [Dennis (3)]	BG	6	16	116	21.0	1955
6. Coastal villages, Japan	G	6-7	25	115	13.9	1958
7. Navaho Indians	B	6-7	14	115	22.6	1936
8. Hopi Indians [Dennis (2)]	B	6-7	18	112	20.1	1941
9. Mountain village, Japan	G	6	16	112	15.6	1958
10. Brooklyn, Yeshiva	B	6	25	111	18.5	1959
11. Coastal villages, Japan	B	6-7	19	109	13.4	1958
12. Rockville, Maryland (Whites)	B	6	25	109	17.3	1957
13. Mountain village, Japan	B	6	18	107	12.4	1958
14. Nashville, Tennessee (Negroes)	BG	6	28	105	16.8	1957
15. Hopi Indians [Dennis (2)]	G	6-8	18	104	20.1	1941
16. Rockville, Maryland (Negroes)	B	6	26	101	17.2	1957
17. Rockville, Maryland (Negroes)	G	6	21	101	15.7	1957
18. Pennsylvania Amish	BG	6-7	14	100	13.4	1958
19. Port Said, Egypt [Dennis (3)]	BG	6	37	94	12.0	1955
20. Univ. school, Beirut [Dennis (3)]	B	6	15	93	13.0	1955
21. Villages near Cairo, Egypt [Fahmy (5)]	BG	6	132	92	15.0	c. 1955
22. Navaho Indians	G	6-7	14	91	16.3	1936
23. Poor Armenian neighborhood, Beirut [Dennis (3)]	B	6-7	15	91	13.0	1955
24. Merida, Mexico	B	6-7	13	89	7.4	1931, 1936
25. Poor neighborhood, Tehran	G	7	25	89	12.1	1959

TABLE 1 (*continued*)

Group	Sex	Age	*N*	*IQ*	*SD*	Date of testing
26. Poor Armenian neighborhood, Beirut [Dennis (3)]	G	6	16	87	13.0	1955
27. Urban Negroes, Natal So. Africa [Hunkin (12)]	B	6	300	85	—	1949
28. Sidon, Lebanon [Dennis (3)]	G	6	32	84	13.0	1955
29. Villages in India [Menzel (14)]	B	6	91	83	—	1932
30. Villages in India [Menzel (14)]	G	6	37	82	—	1932
31. E. Zoutar, Lebanon	B	7	15	82	24.4	1959
32. Virginia mountaineers [Sherman and Key (18)]	BG	6-8	12	80	—	1929
33. Brooklyn Hassidim	B	9-11	26	79	11.9	1960
34. Urban Negroes, Tennessee & Louisiana [Goodenough (7)]	BG	6-9	613	79	17.5	1925
35. St. Helena, South Carolina (Negroes) [Peterson and Telford (15)]	BG	6	24	78	—	1928
36. Remhala, Lebanon	B	6-7	7	77	23.2	1959
37. Kakiet, Lebanon	B	7	25	76	15.0	1959
38. Chamula Indians, Mexico	BG	5-9	23	75	18.0	1962
39. Bedouins, Syria [Dennis (4)]	B	6-7-8	28	56	8.3	1959
40. Primitive Shilluk, Sudan [Fahmy (6)]	BG	7-13	c. 180	53	—	c. 1954

C. Results and Hypotheses

The chief data to be discussed in this paper are contained in Table 1, which gives for each of 40 groups the number of cases, the mean score, and the standard deviation, except that in some instances in which data were obtained from published sources the standard deviations were not available. In Table 1 the groups are arranged from high to low according to their Goodenough means. The name of each group provides an indication of its geographic location, and usually provides information concerning its race, its ethnic affiliation, and its religion. Often further information concerning a group will be provided in connection with the discussion of the results. Each group name is followed by B, G, or BG to show that it consists of boys or

girls or both, and by a figure which indicates the age of the group. For each group Table 1 shows the year in which the group was tested.

The statistical treatment of the data in Table 1 was performed by Professor Solomon Weinstock, to whom we are greatly indebted. Footnote 2,[2] prepared by Professor Solomon Weinstock of Brooklyn College, explains the procedure which was used. It is a conservative procedure which takes into account the number of possible group comparisons which are possible in Table 1, and which makes allowances for the probability of finding "significant" differences because so many comparisons have been made. Professor Weinstock's general finding is that any two groups in Table 1 with *N*s of 25 are significantly different at the 5 per cent level if their means differ by as much as 20 points. In groups involving larger *N*s, smaller differences are significant at the 5 per cent level of confidence. The level of confidence in respect to differences greater than 20 points is considerably greater. Since the mean *IQ*s exhibited in Table 1 vary from 125 to 53, it is obvious that a considerable number of the differences which are represented by Table 1 are

TABLE 2
RESULTS OF TUKEY'S MULTIPLE COMPARISON PROCEDURE

Group	Highest ranking group*
1	14
2-4	19
5-7	21
8-12	25
13-15	27
16-17	29
18	34
19	37
20-38	39

* The entries in this column are the "highest ranking groups" from which the groups in the first column differ significantly. All lower ranking groups also differ significantly from the indicated group.

[2] When Kramer's modification is used (13), differences between two group means M_i and M_j are declared significant if $M_i - M_j$ (assuming M_i larger than M_j) is larger than $3.90 \sqrt{MS_{w6}} \sqrt{1/n_i + 1/n_j}$. When all the groups are the same size the procedure is the same as Tukey's procedure. The value 3.90 was obtained from a table presented by Acton (1, p. 186). The sums of squares for all groups were pooled and the mean square within groups, MS_{w6}, was computed as 281.1053. Thus, differences greater than $65.39 \sqrt{1/n_i + 1/n_j}$ were reported as significant.

A procedure proposed by Tukey [see Scheffe (17)] to provide a 5 per cent "experimentuise" error rate was used to determine which of the differences in Table 1 were statistically significant. The procedure was modified, following a suggestion of Kramer (13), to deal with unequal *n*'s in the groups. The results of the "multiple comparisons" procedure are presented in Table 2.

significant at the 5 per cent level by the procedure employed by Professor Weinstock.

We shall now consider the extent to which the data in Table 1 support or negate the propositions which were proposed in the introductory section. The first proposal to be evaluated is that high scores are made by groups which have a high local development of representational art or which are high in respect to exposure to modern visual media. Among the high means will be found those of two Japanese groups. The highest Japanese means are 124 for girls and 123 for boys in Kyoto, an ancient center of Japanese culture which contributed greatly to Japanese art. However, two Japanese coastal villages, which have limited communication with urban centers, have means of 115 for the girls and of 109 for the boys. In a Japanese mountain village, which also is somewhat isolated, the girls have a mean of 112 and the boys a mean of 107. The means mentioned above are not significantly different from each other, but are significantly different, respectively, from all groups whose means are lower by 20 points or more.

Japan has a long history of art achievement, of which Kyoto was one of the centers. This art tradition was not limited to the upper classes. Woodblock printing, which was introduced about 1750, made possible a widespread distribution of prints, illustrated books, and picture books. An article in the 1956 edition of the Encyclopedia Britannica (Vol. 12, p. 964) states ". . . perhaps in no country has fine taste been so widely diffused. The color prints of the 18th century were produced by men of the artisan class solely for a public of the same class."

Popular art is widely diffused in Japan today. But Western influences also are great at the present time. The respective Japanese scores may, therefore, reflect a combination of native and Western influences, and it seems reasonable to believe that the differences between urban and rural Japanese means may represent the direction of movement of both influences from urban cultural centers to the hinterland.

Not far from the top of Table 1 are Navaho Indian boys whose mean score at ages six and seven is 115. Navaho girls of the same ages in the same schools have a mean score of only 91, significantly lower than the Navaho boys. The data here presented were gathered by Steggerda in 1936, when, in general, the Navaho lived under more primitive conditions than they do today, although primitive conditions persist at the present time in some parts of the Navaho reservation.

In 1936 the majority of adult Navaho were illiterate, and for the most part each family lived in a one-room dwelling, and were little affected by

Western influences. In order to attend school the young children tested in 1936 were moved from their homes to boarding schools operated by the U. S. Indian Bureau. Before coming to these boarding schools at six or seven years, most of these children had never seen paper, pencil, books, or pictures, nor electric lights, piped water, beds and sheets.

Anthropologists from an early date have noted the high artistic development of the Navaho as shown by their chants and rituals, which involve masks, dances, sand-paintings, and recitatives replete with visual imagery. The performers in ceremonies are men. In addition men also do silverwork and leatherwork. The art work performed by women, which is geometric, consists of the weaving of blankets and rugs. The findings with respect to the Navaho are therefore in accord with our hypotheses.

The Hopi Indians are neighbors of the Navaho, but they live in villages. Because it is easier to enforce compulsory education under village conditions than under nomadic conditions, the Hopi received education earlier than did the Navaho. The parents of the children tested by us (2) had, for the most part, attended school, and their education could indirectly have affected the art of their children. The Hopi boys score about the same as Navaho boys, but Hopi girls score above the Navaho girls. Hopi girls presumably have been more subject than Navaho girls to Western influences.

As Table 1 shows, the Hopi boys' mean score in 1942 was 112; the girls, 104. Havighurst *et al.* (11) also found similar and significant sex difference among the Navaho and the Hopi. Among the Hopi, as among the Navaho, the artistic activities belong primarily to the men. Boys begin to participate in these activities at an early age. Hopi women do not engage in representational art. For example, Hopi pottery is made by women but is decorated by men.

Table 1 contains two American white groups—Larned, Kansas; and Rockville, Maryland—whose scores are as high as those of any other group; i.e., equivalent to those of Kyoto boys and girls, and to Navaho and Hopi boys. Each of these towns is a county seat, which contains a large proportion of the highly educated persons in the county. Almost all homes in these towns contain newspapers, illustrated magazines, illustrated children's books, pictures, photographs, art objects, television, crayons, pencil and paper, coloring books, drawing books, and a variety of visual play materials.

In Rockville, Maryland, Negro boys score eight points lower than white boys; and Negro girls, 18 points below white girls. The latter difference is not quite significant. From no other city do we have both Negro and white children, but Table 1 shows that Rockville, Maryland, Negroes score

101 and Negroes in Nashville, Tennessee, in 1958 had a Goodenough mean of 105. These results are significantly different from the mean of 79 which Goodenough obtained from Negro children in several Southern towns in 1925 (see item 34 in Table 1). In other words, from the evidence at hand it appears that urban Negroes today test as high on the Goodenough as urban whites did about thirty years ago, although it is not appropriate to generalize from our samples to the United States as a whole.

The visual art stimulation provided by Negro homes today is undoubtedly greater than it was in 1925. The exposure of white children has also increased. It seems likely that the Goodenough scores of many groups have improved over the intervening period of time. Quite possibly the scores of Navaho and Hopi boys have not improved, since their participation in native "visual displays" may have decreased. But because of the increase in Western influences, the scores of Navaho and Hopi *girls* probably have increased.

In 1958 we tested five one-room rural schools near Lancaster, Pennsylvania (Group 18). All but two pupils in these schools were children of Amish farmers. The Amish homes do not have television. They have few illustrated magazines or children's books. The Amish do not attend movies. However, the public schools which they attend have the usual illustrated textbooks, placards are on the walls, and some drawing assignments are given. The teachers in the schools are non-Amish because until recently the Amish have refused to send their children beyond the eighth grade, and hence Amish young people cannot meet the state educational qualifications for teaching. In view of the nature of the Amish home environment, it is not surprising that the Amish mean is 100, more than 25 points lower than Larned, Kansas, and Kyoto, Japan, and about the same as American Negro groups that we tested.

We did not attempt to obtain data from culturally deprived American communities. They are numerous, and it is certain that many would earn Goodenough means below 100. We centered our attention chiefly on groups which, in terms of our hypothesis, we expected to be appreciably above or below 100. For this reason, the mid-region of Table 1 contains relatively few groups. This is undoubtedly a result of our selection of groups to be tested.

In the groups listed in Table 1, the next group after the Amish is Port Said (Group 19). Port Said is a relatively modern city. The schools which we tested were probably representative of Port Said, yet the mean score of six-year-olds in 1955 was only 94, a value significantly different from all means above 114 and below 74.

Since several Middle Eastern groups are represented in the remainder of

Table 1, some general comments should be made about the historical influences upon representational art in Arab, chiefly Moslem, countries.

In the Middle East, there was until recently little development of representational art. This was due in part to a general retardation of cultural progress in Moslem countries. But the low Goodenough scores are due primarily to the consequences of an Eastern religious tradition against making graven images, which was interpreted as prohibiting the making of images of man. Today this interpretation has been widely abandoned. But because of the long duration of the taboo upon the representation of human beings, realism in painting and drawing in the Middle East has been slow in developing.

As a consequence, the group differences among Draw-a-Man scores in the Middle East seem closely related to the degree of Western influence. Children of educated parents in Beirut have scores near Goodenough's American norms. In fact an upper-middle-class progressive Armenian school scored 116 (Group 5). An elementary school associated with the American University of Beirut operated for Arabic-speaking children has a mean score of 93 (Group 20). Villages near Cairo have means respectively of 94 and 92 (Group 21). Sidon, Lebanon, has a mean of 84. Three poor villages in Lebanon, whose access to Beirut is only by poor roads and in which schools were only recently built, have means of 82, 77, and 76 (Groups 31, 36, 37). We are familiar with all of these communities. In our judgment, their scores reflect accurately the amount of contact, respectively, that these groups have had with modern visual mass media and modern civilization in general.

In Beirut boys attending an Armenian private school, the fathers of whom were primarily business and professional men (Group 5), scored 116. The boys and girls in a very poor Armenian section of Beirut scored respectively only 91 and 87 (Groups 23 and 26), significantly lower than the Armenian private school but not different from the Arab private school.

A lower-class group in Merida, Mexico, in 1931-1936 (Group 24) had a mean of 89, as did girls from a poor neighborhood in Tehran in 1959 (Group 25). Urban Negroes in Natal, South Africa (Group 27), scored 85 in 1949. It would appear that for many underprivileged urban groups the usual mean for six-year-olds is between 85 and 90.

Generally speaking, the mean scores of underprivileged rural groups represented in Table 1 are lower than those of urban children. Sherman and Key obtained data from a very isolated Virginia mountain community in 1932 (Group 32). Only 12 children six-eight years old were tested. The mean was only 80; the mean of older children was lower than 80.

This community had little contact with newspapers, books, or magazines. Most adults were illiterate. The schooling of the children was minimal. At about the same date, rural Negroes on a relatively isolated island (St. Helena) off the South Carolina coast earned a mean score of 79 (Group 35). Rural hamlets in Lebanon and Mexico (Groups 36, 37, 38) are not significantly different from many other poor rural groups, having means of 77, 76, and 75 respectively.

But such low scores are not limited to rural conditions. Distance from urban centers is not the only barrier between children and modern representational art. Of this fact, the Hassidim in the Williamsburg area of Brooklyn provide an instructive example.

The Hassidim constitute an ultraconservative Jewish group which migrated to Brooklyn from Hungary after World War II [see Poll (16) for fuller details]. This group attempts to maintain Jewish orthodox traditions as it conceives them to have been many centuries ago. To this end, it prevents contacts between Hassidic children and other Jewish children as well as with Gentile children. It prohibits contact with most modern mass media, such as radio, television, and non-Hassidic publications. All Hassidic children attend Hassidic parochial schools. Certain courses in secular education are required by the State of New York, but the chief emphasis in these schools is upon religious training.

In connection with Goodenough scores, the chief point of interest in respect to the Hassidim is that they have perpetuated the ancient Middle Eastern tradition against the making of images. This is interpreted to proscribe for the Hassidim not only illustrations, movies, and television, which we have mentioned before, but also photographs, and drawing. Of course, in a modern city, this prohibition cannot be 100 per cent successful, since in passing along the city streets Hassidic children must necessarily see placards, billboards, movie entrances, magazine covers, the front pages of tabloids, and even drawings of children on sidewalks and walls.

We obtained drawings from Hassidic children through a former student of ours, a teacher of secular subjects at an Hassidic school (few if any Hassidim can qualify as secular teachers). Some Hassidic children refused to draw a man; several said they had never drawn a man before but complied with the request. A total of 26 drawings was obtained from boys aged nine to 11 years, the boys in the classroom of the cooperating teacher (Group 33). The mean Goodenough *IQ* was 79, which is not significantly different from the results obtained from South African Negroes, Negroes in the American South between 1925 and 1928, and poor villages in India, Lebanon, and

Mexico. This low score in an urban group seems to be due to its self-imposed insulation from modern mass media. It is not likely that this will continue through another generation.

Two groups only remain to be discussed (Groups 39 and 40). They are the Syrian Bedouins (4) and the Shilluk group of Sudanese (6). Their respective means are 56 and 53. These scores are approximately 20 points lower than the next higher group and significantly different from this group and all other groups.

The Bedouins and the Shilluk are the only groups who were not attending school when tested. Their entire communities were illiterate. Before being tested, these children had not used pencil and paper. They had probably never seen pictures of men, except perhaps in stray copies of newspapers or occasional packages of cigarettes or other packaged goods. The results obtained from these groups seem to indicate that mean scores of about 50 can be earned by children who have had almost minimal exposure to representational art. It will be recalled that this mean is approximately 75 points less than the highest means which we obtained.

In brief, all of the significant differences between groups in Table 1 seem attributable to differences in exposure to representational art, which are often related to differences in modernization.

D. A Consideration of Alternative Hypotheses

We shall now inquire as to whether or not some alternative hypothesis or hypotheses explain equally well the large differences observed in Table 1. Several alternative hypotheses occur to us.

1. *Alternative Hypothesis I*

Large group differences in Goodenough scores are due primarily to heredity or to other biological factors. This is, of course, the hypothesis which was popular when Goodenough's test was developed. We have no doubt that brain damage and other pathological conditions can affect Goodenough scores, nor do we doubt that *within* a group with homogeneous experience large differences due to heredity will be apparent. But we have been dealing with large differences in scores among biologically normal persons, living in functioning groups. There is no reason to believe that any community can function adequately if the mean "biological" intellectual capacity of the group is equal to or below that of a Western moron. It seems more likely that in these groups biological differences are not being measured.

An environmental rather than a biological interpretation of group differences is supported by our findings concerning sex differences. In many groups,

sex differences in Goodenough scores are nonexistent or small. In the rural Japanese communities, girls score higher than boys although not significantly so. In Southwestern Indian groups, boys score significantly higher than girls. Such reversals of sex differences do not seem to be compatible with a biological interpretation.

Further evidence against a biological interpretation of most of the differences shown in Table 1 is derived from the fact that large differences exist between pairs of groups that presumably have much the same heredity. Among such pairs are American Negroes in 1925 and American Negroes in 1956, Hassidic Jews in Brooklyn and Brooklyn Yeshiva students, Arab Bedouins and Arab urban dwellers.

2. *Alternative Hypothesis II*

Group differences are due chiefly to differences in schooling. We mentioned earlier that six-year-olds and seven-year-olds tested in the same school at the same time seldom differ by more than a few points. From 11 schools we have assembled data for six- and seven-year-olds tested on the same day. The median group scores are identical for the two age groups. Since six- and seven-year-olds in the same schools do not differ in Goodenough scores, the differences in amount of schooling among six-year-olds fail to account for the large differences between groups in Table 1.

3. *Alternative Hypothesis III*

Differences between groups are due primarily to the fact that urban populations make better scores than do rural populations. While in many countries urban children may enjoy a test-superiority, urban residence accounts for only a few of the differences shown in Table 1. Of the high-scoring groups in Table 1, many are "rural" or village or small town in character. This is true of the three highest white American groups, of four of the six Japanese groups, and of the Navaho and Hopi boys. Nor are all metropolitan groups high-scoring. The Hassidic Jewish group, living in Brooklyn, a city of three million persons, averages 36 points below Navaho boys who have never seen a city. Also there are low-scoring groups in Beirut, in Tehran, and in Natal, all of which are sizeable cities. City groups are often exposed to representational mass media, but this is not true of all urban groups. In contrast, some primitive communities have extensive native art. Our hypothesis seems to fit the data better than does the rural-urban hypothesis.

4. *Alternative Hypothesis IV*

Group differences are due largely to the literacy and education of the children's parents. Parental education often accompanies exposure to repre-

sentational art and modernization. But many facts indicate that parental education is not a necessary causal agent. Most of the parents of the high-scoring Navaho boys were uneducated and illiterate. Furthermore, the Navaho parents who produced high-scoring boys produced girls who scored much lower. The fathers of the low-scoring Hassidic boys are literate in Yiddish, Hebrew, and Hungarian and have much religious knowledge, but their sons' mean Goodenough *IQ* is only 79.

In short, no alternative hypothesis which has occurred to us seems to be as satisfactory as the hypotheses which have been proposed by us to account for the differences presented in Table 1.

E. The Effects of Cultural Change

In this section we will review the evidence that in the case of societies which, prior to contact with Western civilization, developed little or no representational art, Goodenough scores increase as exposure to Western influences increases. This will to some extent repeat what has already been said, but will focus upon Goodenough scores as indicators of cultural change.

Let us start with the Bedouins, who are among the two lowest scoring groups. The Bedouins live a simple nomadic pastoral life, moving their flocks from place to place in an arid environment in search of pasture. This pattern of life has been followed for centuries, and those who are Bedouins today are probably much like the Bedouins of many hundreds of years ago. Because the pastoral cultural pattern has remained constant, it seems likely that Bedouins living centuries ago would have made human figure drawings like the Bedouins of today.

But through the centuries there has been in Arab lands, as elsewhere, a migration of population from rural areas to urban centers. Many of the people in Arab villages, towns, and cities today are descendants of Bedouins. In the most primitive Lebanese villages—as in Remhala, E. Zoutar, and Kakaiet—the mean Goodenough scores are much higher than the Bedouins' average of 56. In modern Beirut it is higher still. It would seem that as Arab culture has incorporated representational art, and other Western influences, the Goodenough score has improved accordingly.

Jews, whose early cultural background was very similar to that of the Arabs, have followed a similar course of development. We have no data on Hebrew shepherds, the counterparts of the Arab Bedouins, but we have data on children of ultraconservative Hassidim now living in Brooklyn. In this group the relative isolation from modern influences is self-imposed. Presumably because of self-imposed restrictions, the Hassidic mean is only 79. Other

Jews, living in Brooklyn, who have abandoned the taboo on human representations, have mean test scores of 100 or above. The difference in scores between the children of Hassidic and other American Jews appears to be a matter of cultural change.

The reader is reminded that scores appear to have changed considerably in recent years among American Negroes. Goodenough, in her 1926 article (7), reported the results of testing 613 Negro children in segregated schools in Chattanooga and Mt. Pleasant in Tennessee and in Natchitoches, Louisiana. The mean obtained was 79. Peterson and Telford (15) testing a rural group of Negroes in St. Helena Island, South Carolina, found a mean of 78. In 1957 we obtained data on six-year-olds in the then-segregated schools of Nashville, Tennessee, and of Rockville, Maryland. The Nashville mean was 105; the Maryland Negroes had a mean score of 101. Since the earlier and later scores were not obtained from the same communities, the evidence is not conclusive, but it suggests that a significant increase of 20 points or more may have taken place in Negro scores since 1926, even under segregated conditions.

The data just discussed are consistent with the interpretation that cultural influences affect Draw-a-Man scores. However, retests of communities tested many years ago could provide direct confirmation. It is hoped that such direct evidence will be obtained soon.

F. Summary and Conclusions

The mean Goodenough scores of 40 groups differing widely in original culture and in degree of modernization have been presented. The data were obtained primarily from six-year-olds who were in their first year of school, but some data from some older children and from children not in school have been included. The Goodenough "*IQ*" means varied from 53 to 125.

It was proposed that the independent variable most directly related to the diversity of group means is the amount of experience with representational art, and in encouragement to engage in it. Variation in exposure to representational art may be due to differences in development of native art or to the degree of exposure to Western art, or to both. Since exposure to Western visual mass media is usually accompanied by exposure to other aspects of Western civilization, it was hypothesized that in the case of groups with little indigenous art, Goodenough scores reflect different degrees of acculturation to Western civilization.

Examination of the data presented seems to support these interpretations more strongly than they support alternative hypotheses.

Evidence has been adduced that Goodenough means of formerly low-scoring populations have increased as their modernization has increased.

The Goodenough test, originally designed to measure "hereditary" differences, may be found useful as an index of what have variously been called degrees of acculturation, Westernization, modernization, and social change.

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RELIGIOUS AUTHORITY AND SOCIAL PERCEPTION: A LABORATORY EXPLORATION IN SOCIAL INFLUENCE* [1]

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A. INTRODUCTION

From childhood onward, most of those convictions which men posit as partaking the character of "the true" have been *taught to* them, rather than *learned by* them of their own experience, and the confidence interval at which they are willing to risk positing the true is a function of their appraisal of the reliability of the "witnesses" who have told them what is true, who have offered them premises through which to define and organize the universe of the perceptible. According to one philosopher of religion (22, p. 67), "in view of our individual mental poverty . . . we cannot avoid reliance upon some sort of authority." It is in this vein that Rokeach (17, p. 113) defined *authority* as "any source to whom we look for information about the universe." Few will long argue against the role of "expert authority" in widening the constricted range of experience open to any single individual. But the major question in the practical order as well as in the effort to demonstrate and conceptualize the role of social authority in determining individual perception is precisely: *about what* are *which* authorities to be believed? What degrees of freedom to vary obtain as one assesses *when* to rely upon the perceptions of reality supplied by authority?

It is in the decisions one habitually makes in such situations that Rokeach (17, p. 115) finds meaning in the concept the *authoritarian personality*, specifically in "the notions about the nature of authority" and the "theories about the way to employ authority" one holds. From these considerations evolved the present study: to what limits is authority capable of extension beyond that province of special competence in which it is the "expert witness" in fact? To investigate the fashion in which social authority is capable of extension

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to influence the way in which the individual perceives the world of physical reality and to offer an elementary paradigm for the exercise of social authority in a closed religious society, the experiment described in this report was designed.

The experiment described in this report investigated the operation of social influence in a closed religious society characterized by an authoritarian, hierarchical power structure in terms of the social modification of members' initial perceptions of nonambiguous, clearly structured visual stimuli. Perceptual modification was induced through the application of conformity pressure by the appropriate surrogate of authority (specifically, a person introduced to and perceived by subjects as a member of the clergy, in which authority resides). For comparison, perceptual modification induced through conformity pressure applied by a "neutral" other (in contrast to the authority surrogate as a "significant" other for members of the closed society) was explored. Social influence was studied in the experimental situation in relation to relatively enduring personality factors predictive of conforming behavior and to the discrepancy between initial perceptions and experimentally offered perceptual "norms" as an additional "pull" toward conforming behavior. These predictor variables were arrayed by partitioning into subsets and conceptualized as levels of conformity predisposition within *S*s.

Stimulus objects exhibited high internal structure; the stimulus situation was relatively unambiguous; nonsocial frames of reference were available as perceptual anchorages; and neither positive nor negative sanctions were implied or imposed. The experimental task, judging the magnitude of visual stimuli, bore no relevance to the religious function of the authority surrogate (AS).

The operation of social influence was studied in terms of immediate adherence to the norms of the experimental confederate while in his presence (*norm adherence*) and to the subsequent interiorization of those norms in the absence of conformity pressure (*norm interiorization*). Two degrees of severity of conformity pressure were employed by experimental confederates: *mild* conformity pressure was applied as the subject was required to report his perception of the magnitude of stimulus objects privately, in writing, in the presence of the confederate, and *severe* conformity pressure was applied as the subject was required to report his perception of stimulus objects publicly in the presence of the confederate. Two sequences of conformity pressure application, mild-severe and severe-mild, were employed by the AS in attempting to effect perceptual modification, while the "neutral" other (NO) applied pressure in the severe-mild sequence.

B. Conceptual Foundations

Theoretical and empirical studies of the dynamics of social perception and the operation of social influence in organized societies indicate several significant paradigms for the investigation of social influence in the closed society. Stimulus ambiguity and the effectiveness of social influences emanating from several sources have been found to vary together. Group membership and the salience of the group to the individual appear to evoke conforming behavior, and conformity is predicated in part upon the modes of perceptual reporting required in the experimental task.

Though the bases of social power have been explored and the source of the norm has been found to contribute to the modification of perception, little empirical research has attempted to deal with the role of an institutionalized, traditionalized power-status relationship in the modification of perception, thus capitalizing on pre-existing power structures meaningful to both group members and norm-setter. Though paradigms have been offered for norm interiorization, little experimental study has been directed at the relative permanence of perceptual modification resulting from social influence in an established group. Little research has dealt with the operation of an enduring power structure upon social perception when the AS attempts to extend his power to areas beyond his proper jurisdiction.

The conceptual rationale for the selection of a highly structured stimulus situation in the present study is found in the research of Sherif (18, 19, 20), Walker and Heyns (23), and especially Asch (2, 3) on stimulus clarity and social perception, which indicate that sufficiently strong social influence operates to lead subjects to resolve cognitive conflicts in the direction of the norms of the significant other. Studies by Dittes and Kelley (9) and Deutsch and Gerard (8) on the effect of public *vs.* private reporting upon social conformity suggested the experimental manipulation of what has been conceptualized as conformity pressure; and the investigation of the permanence of perceptual modification, or norm interiorization, was suggested by the studies of Festinger and Carlsmith (10) and Raven (16) on the effect of public commitment upon subsequent change of private or internal perception. The analyses of social power in existing groups offered by French and Raven (12), Thibaut and Kelley (21), Lippitt *et al.* (14), Firth (11), and especially Kelley (13) and Charters and Newcomb (5), in which referent power is the dimension of interest, suggested the investigation of the limits of authority exercise in the closed society. While Firth views the authority of the surrogate in the closed religious society as global, French and Raven have

demonstrated that attempts to utilize social power outside the range of its legitimacy tend to increase resistance to influence, and Charters and Newcomb concluded that increased salience of religious-group membership fails to influence significantly perceptions of matters not relevant to religious-group identification. Similarly Bellows (4) found that attempts to exercise social authority outside group-defined limits tend to increase resistance. The findings of Couch and Keniston (6) on "yeasaying" as a response set and the classic study of Crutchfield (7) on character structure and conformity influenced the selection of personality variables. The inclusion of the initial level of perceptual accuracy as a predictor variable was suggested by the research of Walker and Heyns on familiarity with the cognitive object to be judged, and by the research of Asch (3) concerning the effect of discrepancy between individual perception and social norm.

Though the influence of the "other" upon the perceiving subject has been relatively well explored, most experimental designs have utilized what Sherif and Sherif (20) have described as the "togetherness" situation, in contrast to the established group situation in which status relationships in power structures have endured prior to involvement in the experimental situation. The extent to which "others" perceived by the subject as occupying high status positions are capable of perceptual influence has been explored, but such studies have not capitalized on status relationships pre-existing the experimental task. When the effect of "expert" opinion upon perception has been studied, the expert-confederate has typically been presented as a person with special competence in the experimental task. The present experiment sought to demonstrate the effect of perceptual norms offered by the AS in an established, encompassing religious society in which each *S* recognized the symbols of office held by the AS. It attempted to determine to what extent social power legitimately exercised by the authority surrogate in matters which properly fall within the purview of the closed society is applicable to the behavior of members in a province far removed from that purview. While the behavior over which the closed religious society habitually or occasionally claims juridical power is protean, one does not often encounter the proposition that the perception of magnitude in physical stimuli is indeed a behavior within the jurisdiction of the closed religious society. Conforming behavior in this experimental situation thus emanates from the *S*'s perception of the status and role of the AS.

C. Procedures and Results

The closed religious society which formed the context for this experiment was the Roman church, which, in common with other members of its genre of social organization, controls movements from "lower" (lay) to "higher"

(clerical) estates (11) through the prescription of regimens of training supervised by members of the higher estate. *Ss* were 120 randomly selected male undergraduates in a liberal arts college conducted under the auspices of the closed society, of normal visual acuity, in whom dominance and self-sufficiency, as personality factors predictive of conformity, were independent of initial levels of perceptual accuracy (15, pp. 110-119), on the threshold of and in preparation for adulthood (concomitant with which is final separation into higher or lower estates in the society).

The personality factors dominance and self-sufficiency were measured through scales E and Q-2, respectively, of the Cattell Sixteen Personality Factor Questionnaire, Form C. The initial level of perceptual accuracy and perceptual modifications during and subsequent to applications of conformity pressure by experimental confederates were measured through "mean distortion error scores" (MDES) derived from exposure on various trials to the "Index of Visual Accuracy," an instrument developed for use in this experiment, which presents a series of 20 nonambiguous stimuli in the form of 35 mm slides, which, when projected at a distance of 12 feet, range in area from one to 36 square inches. The Index employs seven distinct sizes with gross intervals to decrease chance errors: one, four, nine, 16, 25, 30, and 36 square inches, respectively. Order of presentation was determined initially by random selection with replication, then held constant for each presentation for each *S*. Each slide is exposed for 12 seconds, with an interval of four seconds. Prior to each trial, nonsocial frames of reference were made available to *S* through the projection of slides of all seven sizes, in geometric order, which *Ss* were instructed to regard as standards for perceptual estimation. MDES, an adaptation of the method of average error in psychophysical measurement, are calculated by summing algebraically *S*'s perceptual deviations from "objective" magnitude and dividing the sum by the number of estimates (20) rendered in each trial. Test-retest reliability is +.93. (For detailed description, see 15, pp. 84-92, 193-197.) Predictor variables (initial level of perceptual accuracy, dominance, self-sufficiency) were found, on the basis of Chi-square treatments, not to be significantly related within the *Ss*, and were partitioned, cross-partitioned, and double-cross-partitioned, as independent source of variance, to form subsets of the second-order construct, conformity predisposition level within *Ss* (15, pp. 93-97, 110-118). Thus conformity predisposition level one contained *Ss* characterized by high perceptual accuracy, high dominance, and high self-sufficiency, while conformity predisposition level eight contained *Ss* characterized by low perceptual accuracy, low dominance, and low self-sufficiency.

Experimental confederates offered *Ss* perceptual norms which exceeded by

three times the absolute magnitude of *S*'s initial perceptual estimates (MDES) and which veered in the direction (over- or under-estimation) opposite to that evident in *S*'s initial perceptions, in accord, respectively, with the absolute magnitude of *S*'s initial MDES and with the algebraic sign attached to *S*'s initial MDES. The criterion behavior was operationally defined as perceptual modification in the direction of norms offered by AS or NO under varying degrees of severity and sequences of conformity pressure. It is important to note that the discrepancy between *S*'s initial perceptions and confederate's norms progressed geometrically.

On successive days, *Ss* were exposed to the Index in five trials: an initial trial for familiarization, a trial for collection of initial MDES, a trial under conditions of severe (or mild) conformity pressure, a trial under the variant condition of conformity pressure, and a final trial when confederate was no longer present. AS was presented by name (including clerical title); no effort was made to increase the salience of the membership group beyond this introduction and the global stimulus of clerical garb worn by AS. NO was presented to *S* by name only. Neither AS nor NO was previously known to *Ss*. AS and NO approximated each other in age and appearance. Appropriate "masking" devices to conceal the purpose of the experiment from *Ss* were employed.

Ss were partitioned into three experimental groups, each identical with regard to eight levels of conformity predisposition. Forty *Ss* were exposed to influence attempts exercised by AS in the severe-mild conformity pressure sequence, forty to mild-severe sequence applied by AS, and forty to severe-mild sequence applied by NO. Estimates of magnitude, measured through MDES derived from *S*'s (*a*) noninfluenced trial, (*b*) trial under mild conformity pressure, (*c*) trial under severe conformity pressure, and (*d*) trial subsequent to applications of conformity pressure, in the absence of the confederate, were treated statistically through analysis of variance procedures for two-way classification. MDES were entered into variance cells classified according to conformity pressure conditions (columns)—i.e., preinfluence, mild, severe, and postinfluence, and according to *S*'s conformity predisposition level (rows). Sources of variance thus were conformity predisposition, conformity pressure conditions, and interaction between predisposition and condition. In analyzing sources of variance in norm adherence trials, MDES collected in trials 1, 2, and 3 were investigated, while MDES collected in trials 1 and 4 were investigated in analysis for norm interiorization. In norm adherence, variance arising from conditions was significant for *Ss* exposed to AS in severe-mild sequence, with other sources not significant; no source was significant for *Ss*

exposed to AS in mild-severe sequence; and only predisposition source was significant for *Ss* exposed to NO in severe-mild sequence. In norm interiorization, all sources were highly significant for *Ss* exposed to AS in severe-mild; only interaction source was significant for *Ss* exposed to AS in mild-severe sequence; and only predisposition for *Ss* exposed to NO. Statistical analysis (15, pp. 109-153) thus yielded the following conclusions:

1. Norm adherence is a function of the *sequence* of conformity pressure applied by AS; i.e., *Ss* exposed to severe-mild sequence applied by AS tend to conform to his perceptions in his presence, regardless of internal predispositions. Variance arising from conformity pressure conditions reaches significance between .05 and .01 for *Ss* in severe-mild sequence in norm adherence trials; other sources are not significant. No sources are significant in mild-severe.

2. Norm interiorization is a function of the *interaction* between conformity predisposition levels within *Ss* and applications of conformity pressure by AS, regardless of sequence; i.e., *Ss* predisposed toward conforming behavior, including those in mild-severe sequence who failed to adhere to his norms, tended to interiorize AS's norms in the absence of conformity pressure. Variance arising from interaction fails to reach significance for *Ss* in either pressure sequence applied by AS during norm adherence trials, but in the norm interiorization trials reaches significance between .05 and .01 for *Ss* in mild-severe and beyond .01 for *Ss* in severe-mild sequences. For this reason, interaction between conformity predisposition and conformity pressure applications by AS is *cumulative*.

3. Conformity pressure applied in the severe-mild sequence by AS produces highly significant norm interiorization, without regard to levels of conformity predisposition within *Ss*. Although only conformity pressure condition produces significant variance (between .05 and .01) in norm adherence trials, each of three sources of variance reaches a high degree of significance, beyond .01, in norm interiorization trials for these *Ss*.

4. NO significantly influences neither norm adherence nor norm interiorization; i.e., conforming behavior is evident in the comparison group only for *Ss* highly predisposed toward conformity. Only variance arising from conformity predisposition levels reaches significance, between .05 and .01 in each case, in norm adherence and interiorization trials with *Ss* exposed to NO.

D. Discussion and Integration

Conforming behavior observed in this experiment is attributable to the significance of the religious role of the AS for individual *Ss*. Empirical results are interpretable in terms of role perception, role behavior reinforcement

(specifically, of follower behavior in the presence of AS), and the increased salience of the religious membership group as AS "enforces" his social authority through severe conformity pressure. In this experiment, self-behavior appears to issue from perception of self-role in relation to and dependent upon self's perception of other-role, in turn dependent upon environmental and situational cues which increase or decrease the salience of the social organization binding self and other, cues which demonstrate the malleability of the social structure and its tolerance for behavior deviant from norms established by social authority.

It may be conjectured that the initial contact with the AS in the experimental situation established a perception of "self" and "other" roles within *S*s both for their own roles and that of AS, and that later contacts tend to reinforce this role perception and the behavior issuing therefrom.

*S*s exposed to the severe-mild sequence applied by AS apparently perceived the role of AS as not permitting heterogeneity of perception, but tended rather to perceive him in such fashion that the salience of the religious membership group increased until it became the reference group in the experimental task, and social authority rooted in religious function but resident in AS was free to operate outside the bounds of its "legitimate" exercise. The response set of these *S*s, as they encountered mild conformity pressure in the second contact with the norm-offering AS, was framed toward perceiving him as an effective norm-setter; perceptual disagreement produced cognitive conflict resolved in the direction of AS's norms. Public disagreement is not "safe" in a situation in which behavior is emitted under the surveillance of the surrogate of the reference group, even though he threatens no sanction. It is proposed that *S*s who experienced severe conformity pressure in the initial experimental contact with AS perceived him as a norm-setter, accepted his role, adhered to his norms, and tended to interiorize his norms. *S*s who had conformed to the norms of AS under these circumstances, regardless of (perhaps even despite) their internal predispositions, were faced with "public" behavior divergent from initial behavior. Norm interiorization may represent for these *S*s the resolution of cognitive conflict in such fashion that initial perceptions are modified in the direction of public behavior. As the individual *S* seeks internal consistency, he perceives stimuli in the absence of conformity pressure in a manner not inconsistent with the way these stimuli appeared to him when social pressures were brought to bear upon perceptual process.

Role perception and response set appear to be differentially affected by mild conformity pressure applied in initial contacts. *S*s introduced to AS under conditions of mild conformity pressure either do not perceive his role in the

experimental task as that of norm-setter, or reject this role perception, a situation which suggests a lack of salience for the membership group. Perhaps these *S*s perceived AS as attempting to exercise authority outside the limits of the scope of its legitimacy, and the closed religious society failed to function as the salient reference group in the experimental situation. The symbol of religious authority worn by AS (i.e., the Roman collar) identified him as the legitimate surrogate of *religious* power to members of the closed society, but no other effort was made to manipulate group salience. If the *S* exposed to the mild-severe sequence applied by AS perceived him as norm-setter in theological, philosophical, or social provinces, his initial contact with AS in an experimental task claiming no relevance to religious function may have been perceived, in the absence of sanctions or other cues designed to increase salience other than AS's garb of authority, as a "safe" opportunity for resistance to the attempts of the surrogate of religious authority to exercise behavior control in an area outside the province of religious behavior, or, more succinctly, as a safe opportunity to "rebel" against the authority structure of the closed society. Presuming that this conjecture approaches the psychodynamic processes involved, the response set of *S* in the mild-severe sequence to the second (severe) contact was that of safety in rebellion. But *S*s internally predisposed toward conforming behavior were unable to *sustain* the experience of "safe" rebellion, in the face of a second application of conformity pressure. The tendency of such *S*s to modify their perceptions, interacting with effects of the application of the mild-severe sequence, produced what has been considered a cumulative interaction effect upon social perception, evident in norm interiorization, in what might be viewed as successive approximations in the process of shaping behavior.

One may conjecture that the "neutrality" of NO provided an ambiguous stimulus in which the number of ways of perceiving his role was diffused—dependent not upon cues relative to social organizational hierarchies but only upon internal needs of *S* to project meaning upon NO. In this context, those *S*s predisposed toward conformity were enabled, from inner need, to generate the meaning "norm-setter" upon NO. Though *S*s exposed to NO may have felt that their own perceptions had been disconfirmed by his norms, they apparently felt no pull toward modification of their perceptions in that direction.

In an effort to conceptualize the psychological processes at play in the behaviors observed in this experiment, it has been suggested that conformity pressure applied in the severe-mild sequence casts the AS, in the initial contact with *S*, in the role of the norm-setter whose norms are to be adhered to

and interiorized and whose social authority is rooted in the power structure of the closed society, whose salience increases as it becomes the reference group. Mild-severe conformity pressure sequence applied by AS appears to provide a safe opportunity for rebellion from the exercise of religious authority outside the scope of AS's special competence; the membership group fails to function as the reference group. Role perception establishes and reinforces a response set which serves as a frame of reference and a behavior prescription for *S*s. The response set of *S*s exposed to mild-severe sequence, whose internal predisposition constitutes them as capable of withstanding sustained "safe" rebellion to the exercise of religious authority by AS, is that of resistance; the response set of *S*s exposed to severe-mild sequence exercised by AS, regardless of level of internal predisposition toward independence, is that of yielding to authority rooted in the structure of the closed society and of denial of the direct testimony of one's perceptual faculties. Self-behavior is predicated upon role prescriptions imbedded in perception of self-role in relation to other-role.

E. Summary: Social Authority and Uniform Perception

This experiment has investigated the effect of social influence exercised by the AS of a closed religious society, operating in a controlled laboratory situation. The criterion behavior, involving the estimation of magnitude in nonambiguous stimulus objects in which external, nonsocial frames of reference were available as perceptual anchorages, was not related to the spiritual bases for the existence of the closed religious society, the membership of subjects in the society, or the possession and exercise of social authority by members of the higher estate. Stimulus objects to be judged—unlike those in Kelley's (13) study of the salience of the religious membership group—bore no direct relevance to membership in the closed society, nor was the salience of the society as a membership group emphasized. Rather, membership in the society was globally implied for *S* who encountered AS in a norm-setting role in the experimental situation, analogous to the norm-setting role he plays in the operations of the society.

Though the stimulus objects were nonambiguous and though the experimental behavior bore no relevance to group membership, experimental results have demonstrated the underlying premise in which this experiment was rooted: Social influence inhering in the structure of a closed society with an authoritarian power hierarchy and organized for a specific purpose is applicable, under certain conditions, to situations and behavior far removed from

the central purpose for which the closed society exists. The principal condition, within the limitations of this experiment, for the operation of social influence in the closed society, has been identified as the application of severe conformity pressure in initial contacts with members. In sum, the principal finding can be stated thus: When members of a closed society are forced by environmental situations to take a public stand in which disagreement with norms offered by AS will lie open to his surveillance, they tend to adhere to and to interiorize his norms, even in the absence of implied sanctions, and in the presence of external, nonsocial frames of reference.

Uniformity of perception between norm-setter and norm adherer and interiorizer has, in this experiment, been shown to hinge upon the degree and sequence of pressure to conform applied by the occupant of the recognized leadership role. The leadership role has been shown to operate effectively in a situation which claims no relevance to the bases of leadership. In the internal operations of the closed society, it appears, norm adherence and interiorization are predictable when the occupant of the leadership role defines the group norm unambiguously and forces the position of public disagreement upon dissident members of the followership role upon the first occasion on which he announces the norm which shall become, in the authoritarian power structure, the group norm. Subsequent applications of conformity pressure reinforce the leader-defined norm and ensure its effectiveness in controlling follower-behavior.

In short, the closed society is enabled to maintain itself in an authoritarian power structure and to traditionalize and institutionalize its operations by the rigorous enforcement of group norms, which are both based upon and give rise to perceptions shared in common by members and leaders. When institutionalized group norms include intolerance of divergent perceptions, attitudes, or beliefs, however, the society, though insuring cohesiveness, tends to preclude movement from static positions, except insofar as such movement is dictated by occupants of the leadership role. The sacrifice in human quality implied in group-enforced perceptual uniformity, on which group-defined attitudes, beliefs, and values rest, was suggested by Rudolf Allers, a distinguished Catholic psychiatrist, when he declared (1, pp. 101-102):

> the more the individual perceives, appraises and evaluates in accord with the group's principles, the less able he becomes to contribute anything novel . . . There is, in this process, some element which might be described as a movement toward a new primitivism. The world of modern man may be much wider than that of the primitive, but it runs the risk of becoming equally undifferentiated.

F. General Summary

Perceptual modification issuing from applications by a religious authority surrogate (AS) or a "neutral" other (NO) of conformity pressure in severe-mild or mild-severe sequence upon members' perceptions of nonambiguous visual stimuli was studied in terms of adherence to experimentally offered norms (norm adherence) in the presence of conformity pressure and subsequent interiorization of norms in absence of conformity pressure. Predictors were levels of conformity predisposition. Conclusions reached were:

1. Norm adherence is a function of sequence of conformity pressure applied by AS.
2. Norm interiorization is a function of interaction between conformity predisposition and conformity pressure applied by AS, regardless of sequence.
3. Interaction between conformity pressure applied by AS and conformity predisposition is cumulative.
4. The NO significantly influences neither norm adherence nor norm interiorization.

Empirical results were interpreted in terms of role perception, role behavior reinforcement, and the increased salience of the religious membership group as the AS "enforces" his authority through severe conformity pressure.

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PERSONALITY CORRELATES AND CHANGES IN PROWORLD-MINDEDNESS AND ANTIWORLDMINDEDNESS FOLLOWING AN INTERCULTURAL EXPERIENCE*

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A. Introduction

Sampson and Smith (2) have used the term *worldmindedness* to designate an attitude that is a value orientation or frame of reference—apart from knowledge about or interest in international affairs. Worldmindedness favors a world view of problems of humanity, with *mankind* rather than a particular nation as a primary reference group. A Social Attitudes Scale constructed by Sampson and Smith is designed to measure with Likert-type items the worldmindedness attitude.

The author's primary purpose in this paper is to examine the relationship of worldmindedness to basic personality characteristics; however, because of the complexity of attitudes the relation of the proworldmindedness and antiworldmindedness dimensions are separately related to the selected personality characteristics. A second purpose is to determine what change, if any, results from a 10-week sojourn at a foreign study center.

B. Procedure

The data used in this study are the posttest scores obtained from 101 female college juniors. The subjects were participants in an experimental study of the effects of intercultural education (1). In addition to the Social Attitudes Scale, each subject completed the Gordon Personal Profile, the Gordon Personal Inventory, the Survey of Interpersonal Values, the Allport Study of Values, and the Vasser Attitude Survey. Conventional group testing was done with the assurance by college officials that the results would be used for research purposes only.

The research was conducted at a small, private woman's college located near a major Midwest city. Students regularly spend the 10-week winter term of their junior year studying in a European center.

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The decision to use posttest scores is based on the assumption that the intercultural experience serves to crystallize and stabilize the relevant attitudes; thus, while Sampson and Smith use the term worldmindedness to designate an attitude that is a value orientation, the scores used in this study represent prejudice *plus* the effect of experience.

C. Results

Product-moment correlations between the proworldminded and the antiworldminded scales and each of the 26 personality scales of the inventories used appear in Table 1. Some confirmation for the separate scoring of the proworldminded and the antiworldminded items is indicated by the obtained r of — .43 between the two scales. Assuming that Sampson and Smith's reliability estimates are correct, the composite score would be contaminated, and any obtained correlations with additional scales would be subject to speculative interpretation.

That the experience has an effect on responses is reflected by the correlation between pretest and posttest: .07 for the proworldmindedness scores, — .07 for the antiworldmindedness scores, but neither correlation is significantly different from zero. This is contrasted with the odd-even reliability for the total scale of .87 and the test-retest reliability of .93 reported by Sampson and Smith. A comparison of means of the pretest and posttest, using the t test, indicates that no change occurred as a result of the 10-week term abroad. In addition, the inclusion of a 10-week discussion seminar following the experience in intercultural education did not materially affect the student attitudes.

Table 1 shows proworldmindedness to be related positively to the scales that reflect sociability, original thinking, benevolence, and esthetic values. The proworldmindedness attitude is inversely related to those scales that reflect responsibility, economic values, dominance and confidence, recognition, personal relations, and cautiousness.

Antiworldmindedness as a separate scale correlates positively with scales reflecting responsibility, cautiousness, conformity, values, and recognition values. The scale correlates negatively with social maturity, benevolence, developmental status, social values, sociability, and political values.

To some degree, because of the inverse relationship between the proworldmindedness and antiworldmindedness scales, one appears to be nearly the reverse of the other in terms of the correlations with personality characteristics. The proworldmindedness person appears to be a more expansive, gregarious, outgoing individual who is not particularly concerned with being

TABLE 1

PRODUCT-MOMENT CORRELATIONS BETWEEN THE PROWORLDMINDED AND THE ANTIWORLDMINDED SCALES AND EACH OF THE 26 PERSONALITY SCALES*

Scale	Attitude: Pro-world-minded *r*	Attitude: Anti-world-minded *r*	Mean	*SD*
Gordon Personal Profile				
1. Ascendancy	.17	−.09	4.08	5.77
2. Responsibility	−.54	.49	4.12	5.87
3. Emotional Stability	.04	−.19	3.44	6.75
4. Sociability	.28	−.26	5.24	7.02
Gordon Personal Inventory				
5. Cautiousness	−.21	.25	1.39	6.32
6. Original Thinking	.23	−.15	5.70	7.32
7. Personal Relations	−.22	.09	4.39	6.52
8. Vigor	.12	−.04	4.00	6.57
Allport Study of Values				
9. Theoretical	.11	.04	37.95	7.13
10. Economic	−.25	.14	38.46	7.55
11. Aesthetic	.20	−.13	49.20	9.63
12. Social	.07	−.24	36.54	8.51
13. Political	.18	−.20	40.25	6.90
14. Religious	−.05	.11	38.98	8.81
Study of Interpersonal Values				
15. Support	.12	−.03	17.14	5.59
16. Conformity	−.08	.26	10.45	5.20
17. Recognition	−.23	.21	11.15	7.69
18. Independence	.01	−.05	22.01	5.29
19. Benevolence	.28	−.28	16.90	8.75
20. Leadership	−.15	.08	12.91	6.49
Vasser Attitude Scale				
21. Social Maturity	.12	−.44	90.25	15.70
22. Developmental Status	.07	−.24	33.26	9.43
23. Impulse Expression	−.04	−.08	28.99	8.39
24. Dominance and Confidence	−.23	.05	56.21	14.80
25. Social Integration	−.09	.02	38.20	9.38
26. Masculinity and Femininity	−.05	−.12	52.53	14.65
Mean	35.66	23.94		
Standard deviation	15.98	10.88		

* A correlation of .17 is significant at the .05 level of confidence; a correlation of .23 is significant at the .01 level of confidence.

the cornerstone of a community or of a group. This person places limited value on the material things in life, the immediate, and perhaps the ultimate consequences of what may be impulsive reactions. This seems to be the person who is less easily threatened by different values, by different people, or by new and changing situations. The pattern of personality characteristics sug-

gests a person who is adaptable and perhaps productive in a social sense but not necessarily productive in terms of personal material achievements.

In contrast, the antiworldminded person appears to be a more-restricted, conventional person whose actions are guided by a desire for more personal achievement or recognition. There is considerably less emphasis on the interaction with other people or the concern for other people. There is some suggestion that this lack of "other" orientation may consist in part of a lack of security or maturity, and that emphasis is placed on what the individual can construct and individually accumulate.

In comparison with Sampson and Smith's results, proworldmindedness is negatively related to cautiousness, which is comparable to their finding that the single scale is negatively associated with political and economic conservatism. Antiworldmindedness in this case more nearly approaches Sampson and Smith's results in terms of being positively associated with cautiousness and conformity and negatively related to other-oriented personal characteristics.

If, as indicated, worldmindedness is correlated with ethnocentrism and authoritarianism, one might assume that worldmindedness is a multidimensional personality syndrome rather than a single dimension. In addition, the different pattern of correlations with personality characteristics of proworldminded and antiworldminded attitudes and the lack of perfect correlation between the two scales suggest something other than a bipolar continuum. The importance of continued research on the effects in intercultural education and the attitudes relative to integration of cultures has never been as critical as it is currently.

The crucial tests regarding these dimensions in international affairs is a validation of the dimension as a predictor of the behavior of individuals who interact in situations in contact with individuals from other cultures. While the antiworldminded individual is not other oriented within the major reference group, his behavior under unique circumstances may be considerably different from his behavior under test conditions.

D. Summary

The Social Attitudes Scale constructed by Sampson and Smith to measure the worldmindedness dimension was administered to 101 female college juniors following a 10-week term studying in a European center. Two scores were obtained (one measuring proworldmindedness, the other antiworldmindedness) and correlated with 26 measures of personality obtained at the same time.

The results indicate that the proworldminded individual is the more adapt-

able, outgoing, and "other" oriented and seems to place more value on interpersonal relations as opposed to tangible and concrete satisfactions. The anti-worldminded individual appears to be self-oriented, seeking tangible rewards, less-flexible or adaptive in dealing with other people, and considerably more conservative. Worldmindedness seems not to have been significantly affected by the 10-week experience in intercultural education. Comparison with previous results indicates a consistency of findings.

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THE EFFECT OF GROUP PARTICIPATION ON TAT RESPONSES*

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A. INTRODUCTION

The purpose of the present study is to determine any differences in the responses to the Thematic Apperception Test when children are given the test alone and then given the test in a group. Studies by Siegel and Siegel (5), Deutsch and Gerard (2), Asch (1), and Festinger *et al.* (3) have indicated that group membership affects the functioning of an individual to the point that his responses to a situation are different when alone and when in a group.

B. METHOD

Ss were 30 boys and 30 girls from the sixth grade; average age, 11.0. *Ss* were selected randomly from five different classes in a middle-class, suburban New York City area. Occupations of the fathers were distributed as follows: 26 per cent professional, 29 per cent executive, 20 per cent skilled labor, 16 per cent government worker, and nine per cent proprietor of small business.

The groups were divided into four small meeting groups of 10 children each for the purpose of weekly social-recreation meetings. There were two groups of boys and two groups of girls.

The TAT was administered to all *Ss*. The instructions were to tell a brief story about the people represented in the card. Two groups (one group of boys and one group of girls) were tested individually at first (with five TAT cards) and were allowed to speak for only three minutes. An assistant recorded verbatim responses. Cards were randomly presented; i.e., no predetermined order was followed. All *Ss* were shown the same five cards, but alone and at separate times.

One week later, the same 20 *Ss* were tested in their respective groups. Two different cards never seen by *Ss* were shown, with the same instructions to tell a story. Three minutes were allowed each *S*, as in the initial testing.

The procedure was reversed for the remaining two groups. The group test was given first, and *Ss* were tested individually one week later. The stories

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were scored on four major themes: hostility, achievement imagery, blandness, and insecurity. These are the scoring categories for the Iowa Picture Interpretation Test (IPIT), a multiple-choice version of the TAT (4).

The stories were scored independently by each of two professional psychologists according to the four-point ranking system employed in scoring the IPIT. In other words, for each individual story, themes of hostility (aggressive activities), blandness (unemotional, inactivity), achievement imagery (desire for competition for accomplishment), and insecurity (fears and anxiety) were ranked from one through four, depending upon the themes predominant, detectable, or absent.

C. Results and Discussion

Table 1 presents the mean ranks for the four groups for the four TAT themes. The data show a general trend for group participation to affect hostility, blandness, achievement imagery, and insecurity scores: (*a*) Boys and girls were more hostile in their groups than individually; (*b*) girls were less bland in their group stories than individually; (*c*) boys and girls scored higher in achievement imagery in groups than individually; and (*d*) girls were more insecure in groups than individually. The results are in accord with current research and theory.

D. Summary and Conclusion

Sixty children, boys and girls (average age 11.0) were divided into four groups according to sex. Two of the groups were tested individually with five cards of the TAT. A week later they were tested by two additional TAT

TABLE 1
Mean Ranks on TAT Themes*

Sex and theme	Group 1		Group 2	
	Tested individually	Tested in group	Tested individually	Tested in group
Boys				
Hostility	2.4	2.0	2.6	2.3
Blandness	2.1	2.1	2.0	2.2
Achievement imagery	3.3	3.4	3.4	3.1
Insecurity	2.2	2.3	2.1	2.2
Girls				
Hostility	2.5	2.2	2.1	2.0
Blandness	1.6	2.4**	1.8	2.5**
Achievement imagery	3.6	3.0	3.7	3.7
Insecurity	2.4	2.5	2.5	1.9**

* Rank 1 highest; Rank 4 lowest.
** $p < .05$.

cards in their group. The other two groups were tested in their groups first, then individually.

The results indicate that group participation affects oral responses to projective stimuli. *S*s tend to show more hostility, less blandness, greater achievement imagery, and more insecurity in group performance than individually.

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SOCIOMETRIC RATINGS AND PERCEIVED INTERPERSONAL BEHAVIOR* [1]

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A. INTRODUCTION

Several comprehensive empirical systems have been proposed to categorize the interpersonal behavior of individual members in a group (2, 9, 13, 15) and to attempt to explain group-interaction processes in decision making, problem solving, and therapeutic situations. Leary (11) has proposed a classificatory system of interpersonal behavior—not so much for analyzing group-interaction processes as for measuring interpersonal dimensions of individual personality, and Leary's classification has proved useful for diagnostic purposes. Leary hypothesizes 16 varieties of interpersonal behavior that are reducible to eight broad categories (managerial—autocratic, responsible—hypernormal, cooperative—overconventional, docile—dependent, self-effacing—masochistic, rebellious—distrustful, aggressive—sadistic, and competitive—narcissistic) arranged in a circular continuum. More recently, Lorr and McNair (12) have proposed a refinement of Leary's system. They have postulated three broad common factors—"influence-and-control," "affiliation," and "passive dependency"—to account for several categories of interpersonal behavior. The influence-and-control factor is defined by competitiveness, independence, hostility, and suspicion. The affiliation factor accounts for interpersonal behaviors like sociable, supportive, and trusting. Finally, the passive-dependent factor is descriptive of inhibited, abasive, and withdrawn types of interpersonal response.

LaForge and Suczek (10) have developed an adjective checklist to measure the interpersonal-behavior categories proposed by Leary. This instrument has also been used as a sociometric device to study group characteristics and the

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personality patterns of individual members (11). A study of interpersonal behavior in terms of a fixed system of variables, however, is rarely emphasized in the area of sociometry. The measurement of interpersonal behavior that advances one's understanding of an individual's self-evaluation, his perception of other members in his group, and the perception others have of the individual is of major significance to perceptual sociometry. In a group setting, it is not sufficient to know whom one chooses as his friend or as a leader of his group; one needs to know why one chooses another as his friend or leader. And the reason has to be sought in terms of perceived interpersonal behavior.

The present study attempts to measure interpersonal behavior in terms of Lorr and McNair's classificatory scheme (12) and to explore the implications of such a scheme for the sociometric perceptions of individual members in a group. In view of Hollander and Webb's finding that sociometric choices of leaders and friends are to a considerable extent independent (8), the first set of questions used in this study is as follows:

1. Is an individual rated high on leadership status also rated high as a leisure-time companion or friend?
2. When an individual is considered a leader or a leisure-time companion (in terms of the sociometric ratings of other group members), how is he perceived by the other members of the group in terms of his manifest interpersonal behavior?
3. How does the self-perception (in terms of the interpersonal behavior) of individuals rated high and low as leaders and high and low as friends differ?
4. Does the individual rated high or rated low as a leader or friend perceive his own interpersonal behavior in the same way that other members perceive him?

The study also deals with the issue of the relation between assumed similarity and sociometric preference. Fiedler (5) reports several studies supporting the hypothesis that one perceives those whom he likes most as more similar to himself than those whom he likes least. It will be of interest to see whether or not, in terms of each of the three interpersonal-behavior categories studied in the present investigation, similar relationship between measures of assumed similarity and sociometric preference exists.

A related problem studied by Fiedler (5) concerns perceived similarity in the behavior of one's most-preferred and least-preferred co-workers. Fiedler used the assumed-similarity-between-opposites scores of an individual as an index of the psychological distance he maintains in the group. In the present study the author hopes to determine whether those who are rated high in

leadership report a greater perceived similarity between the behavior of their most-liked and least-liked leisure-time companions than do those rated low in leadership.

Several studies reported by Gibb (7) support the contention that leaders are superior in intelligence to nonleaders. Ghiselli (6), more recently, has observed that the success of a manager whose sole function is that of providing leadership and supervision for subordinates is related to intelligence. In the present study, an attempt is also made to explore the relationship of intelligence to leadership and companionship, based on sociometric ratings.

B. Method

1. *Subjects*

Three groups of subjects (*Ss*) participated in this study. Group 1 contained 19 *Ss* who were junior industrial executives (male) from different parts of India. They were attending an eight-month, residential management course in Calcutta. The ages ranged from 22 to 33 years (median = 29.5 years). Group 2 (male) contained 16 *Ss*, students in an undergraduate class of the Indian Statistical Institute. They came from different parts of India, but the course was not strictly residential. Ages ranged from 20 years to 25 years (median = 20.75 years). Group 3 contained 15 females (local Bengali-speaking students of a postgraduate psychology class in Calcutta University. Ages ranged from 19 to 22 years (median = 20.57 years).

2. *Measures and Procedure*

a. Interpersonal behavior. To obtain a measure of perceived interpersonal behavior (PIB), a number of statements of trait descriptions relating each of the three factors postulated by Lorr and McNair (12)—control, sociability, and dependency—were framed. For control (Factor A), 10 statements descriptive of traits such as dominant, aggressive, suspicious, and attention seeking were prepared. For the dependency factor (Factor B), 11 statements describing dependent, abasive, inhibited, and withdrawn types of characteristics were prepared. For the sociability factor (Factor C), 11 statements describing such traits as sociable, affiliative, nurturant, and cooperative were prepared. Next, the 32 statements were presented in a random order to a group of 50 judges (from the Indian Statistical Institute), who were asked to rate each statement on a nine-point social-desirability scale (4); and, on the basis of the ratings secured, the social-desirability-scale value of each statement was determined. Out of the 32 statements, 12 pairs with statements

matched for social-desirability were prepared to constitute a forced-choice measure of PIB. Each pair represented two of the three factors, and there were four pairs for each of the paired-factor combinations.

The pairs are presented in Table 1. Each factor is represented by eight trait descriptions, and each of the eight descriptions representing a factor is

TABLE 1
PAIRS OF TRAIT DESCRIPTIONS USED IN THE FORCED CHOICE PIB MEASURE

Statements	Factors represented	Social-desirability-scale value
1 (a) Shows resentment at what others do	A	.820
1 (b) Shy and timid	B	.820
2 (a) Able to detect motives in others' behavior	A	2.617
2 (b) Very respectful to authority	B	2.597
3 (a) Shows bossy behavior	A	.452
3 (b) Avoids initiative and decision making	B	.482
4 (a) Tries to make a good impression on others	A	2.469
4 (b) Reserved and modest in manners	B	2.214
5 (a) Likes to compete with others	A	3.119
5 (b) Very considerate	C	3.063
6 (a) Distrusts everybody	A	.352
6 (b) Agrees with everyone—a "yes" man	C	.246
7 (a) Shows independence in thought and action	A	3.313
7 (b) Cooperates with others	C	3.292
8 (a) Hostile and resistive to others' point of view	A	.773
8 (b) Too easily influenced	C	.757
9 (a) Able to criticize himself	B	2.870
9 (b) Shows understanding and emotional warmth	C	2.800
10 (a) Does not like to mix with others	B	.680
10 (b) Too lenient with others	C	.616
11 (a) Very obedient	B	2.076
11 (b) Generous to others' faults	C	2.278
12 (a) Unaggressive and meek by nature	B	1.420
12 (b) Shows overaffection towards others	C	1.251

paired with an equally desirable description representing another factor. *Ss* in each of the three subject groups were given the 12 pairs in random order. The sequence of statements in the pairs was also randomized. Each *S* was asked to choose from each pair the statement that better described himself. This choice constituted *S*'s self-description in terms of the three-factor structure of the measure. Since each of the three factors is represented eight times in the forced-choice measure, the frequency of choice could vary from zero to eight. The frequency of the choices for a given factor was converted to a PIB score by dividing the frequency by eight; for example, if *S* described himself by choosing eight of the Factor A items and two Factor B and Factor

C items, his self-evaluated PIB scores are 1 for Factor A and .25 for each of Factors B and C.

Each *S* was asked to describe every other member in his group in the same manner as outlined for self-description. In describing any given member of the group, the frequencies of *S*'s choices for Factors A, B, and C were converted to scores (as described). These scores represented *S*'s perception of the other members. Each *S* is evaluated by other members of his or her group. The average of the polled scores for each of the factors ascribed to *S* by the other members of the group constitutes the peers' perception-of-*S*'s-interpersonal-behavior (PPIB); thus for each factor a subject has a self-evaluated score representing his own perception of himself (SPIB) and a peers' perception-of-interpersonal-behavior (PPIB) score representing peers' perception of him.

b. Leadership measures. *S*s in each of the three groups were asked to look back to the activities of the group during the preceding six months and to indicate in terms of a six-point frequency scale (ranging from "always" to "never") how often every other member led the group in reaching important decisions for the group. The six points on the scale were assigned weights from six to one. The mean of peers' polled ratings for any given individual constituted his score for peers' perception of him as a leader (PL). Besides such scores, *S*s in each group were individually rated by their respective teachers for their active leadership roles. The weighted average of teachers' ratings on a five-point frequency scale for any individual constituted the score for judge's perception of him as a leader (JL). The number of judges in Groups 1, 2, and 3 was eight, seven, and three, respectively.

c. Measures of companionship. To get a measure of how much an individual was liked as a companion by the members of his group, each *S* was asked to look back to his own leisure-time activities during the preceding four weeks and to indicate, in terms of a seven-point scale, how much time he had spent with each member of the group in leisure-time activities. Weights from one to seven were assigned; thus if an *S* indicated that he had spent relatively more of his time with a designated member of his group than with any other member, that designated member was considered to be *S*'s best companion in the group. Each *S* was given a rating, however, from other members of his group, as to how much time each had spent with him in leisure-time activities. An average of such ratings by peers is considered as an index of *S*'s friendliness or peers' perception of the *S* as a companion (PC). On the average, the more the time spent by group members with the *S* in leisure-time activities, the greater is the popularity of the *S* as a leisure-time companion.

In each group, the teachers who acted as judges were asked to rate each *S* in terms of how many members of the group liked him as a companion. Judges gave their ratings on a five-point scale (ranging from "everybody," with a weight of five to "none," with a weight of one). The average of the judges' ratings for each *S* represents the judges' perception of *S* as a liked companion in the group (JC).

d. Measures of intelligence. Both verbal-reasoning and nonverbal-reasoning tests standardized in India were used as measures of intelligence. A test on verbal-reasoning ability, developed by Sharma (14) and three nonverbal reasoning tests—incomplete sets, combination, and definition—designed to test hypothesis checking, deduction, and induction (3) were given to *S*s in Groups 1 and 2. *S*s in Group 3, however, were not available for taking the tests.

C. Result

1. *Relationship Between Measures*

a. Leadership and companionship measures. Rank-difference correlations between JL and JC scores are .78, .63, and .87, respectively in Groups 1, 2, and 3. All the rhos are significant at the .01 level. These results indicate that an individual who is rated as having high leadership status by the judges is also rated by them to be more popular as a leisure-time companion.

The relation between peers' rating of an individual's leadership status and companionship status is not so clear. The rank-difference correlations between PL and PC scores are .71 and .87 in Groups 1 and 3 ($p < .01$), but .24 in Group 2.

Judges' ratings of *S*s as leaders are positively and significantly correlated with peers' ratings of *S*s as leaders. In Groups 1, 2, and 3 the rhos between the scores are .81 ($p < .01$), .60 ($p < .05$), and .60 ($p < .05$), respectively; thus, the individual who is perceived as having high-leadership status within the group by the judges tends to be perceived likewise by his peers.

Judges' ratings of companionship are positively related to peers' rating of companionship only in Groups 1 and 3. The correlations are .59 ($p < .01$), .09 (n.s.), and .51 ($p < .06$) in Groups 1, 2, and 3.

b. Leadership and companionship and PIB. For each *S* there were three SPIB scores (one for each of the Factors A, B, and C). Also, there were three PPIB scores (one for each factor). Each of these six measures was correlated with each of the two leadership measures and with each of the two companionship measures. These rank-difference correlations are presented in Table 2. The correlations are insignificant, except for the correlation in

Group 2 between PL and SPIB scores for Factor A (rho = .57, $p < .05$). The correlations between PL and JL scores tend to be positive and significant in the case of Factor A scores; while in the case of Factor B scores, the correlations are negative and significant. These findings suggest that the higher the leadership status of an individual in the group, the more influence and control and the less passive dependence and withdrawal are seen by peers

TABLE 2
RANK CORRELATIONS BETWEEN PIB MEASURES AND RATINGS OF LEADERSHIP AND COMPANIONSHIP

Rating source	SPIB scores			PPIB scores		
	A	B	C	A	B	C
Group 1 $N = 19$						
JL	−.03	.00	.02	.43	−.61**	.13
JC	−.26	.08	.13	.32	−.41	.10
PL	−.02	.18	−.12	.47*	−.57*	.02
PC	−.21	.32	.18	.28	−.26	.20
Group 2 $N = 16$						
JL	.42	−.38	−.18	.58*	−.58*	−.40
JC	.28	−.19	−.14	.21	−.29	−.20
PL	.57*	−.37	−.18	.83**	−.74**	−.67**
PC	−.29	.06	.39	.00	−.08	.10
Group 3 $N = 15$						
JL	.19	.11	−.09	.77**	−.67**	−.42
JC	.10	.10	.03	.69**	−.65**	−.26
PL	.33	.12	−.45	.84**	−.77**	−.29
PC	.26	.06	−.34	.73**	−.72**	−.21

Note: SPIB = self-perception of interpersonal behavior, PPIB = peers' perception of *S*'s interpersonal behavior, JL = judges' perception of *S* as a leader, JC = judges' perception of *S* as a companion, PL = peers' perception of *S* as a leader, and PC = peers' perception of *S* as a companion.

* $p < .05$ for a two-tailed test.

** $p < .01$ for a two-tailed test.

in *S*'s behavior. Perception by the group members of a sociable or affiliative kind of behavior in the individual (Factor C scores) seems to be unrelated to the leadership status of the individual in the group. Only in the case of Group 2 is the correlation between PL and Factor C negative and significant (−.67, $p < .01$).

Table 2 shows that companionship measures are not significantly related to PPIB scores in Groups 1 and 2. In Group 3, however, both JC and PC scores are positively related to Factor A scores (rhos = .69 and .73, respectively) and negatively related to Factor B scores (rhos = −.65 and −.72, respectively). All such correlations are significant at the .01 level.

Considering the fact that there is a high positive correlation between JC and JL scores (rho = .87) and between PC and PL scores (rho = .87) in Group 3, it is possible that significant correlations between PPIB and JC or PC scores are the results of strong association between companionship and leadership ratings. Removing the effects of leadership rating on such correlations, partial correlations ranging from —.003 to —.183 were obtained. They suggest that in Group 3 more than 90 per cent of the total association between companionship measures and Factor A or B measures results from the effect of the leadership-rating variable.

TABLE 3
RANK CORRELATIONS BETWEEN MEASURES OF INTELLIGENCE AND RATINGS OF LEADERSHIP AND COMPANIONSHIP

Rating source	Group 1 ($N = 19$)				Group 2 ($N = 16$)			
	V	NH	ND	NI	V	NH	ND	NI
JL	.28	.09	.55*	.36	.16	.31	.63**	.46
JC	.44	.22	.60**	.26	.30	.36	.28	.10
PL	.46*	.28	.59**	.46*	— .10	.20	.50*	.19
PC	.28	.20	.31	.29	— .05	— .07	.20	.40

Note: V = verbal reasoning, NH = nonverbal hypothesis testing, ND = nonverbal deductive reasoning, NI = nonverbal inductive reasoning, JL = judges' perception of *S* as a leader, JC = judges' perception of *S* as a companion, PL = peers' perception of *S* as a leader, and PC = peers' perception of *S* as a companion.
* $p < .05$ for two-tailed test.
** $p < .01$ for two-tailed test.

c. Relation of leadership and companionship to intelligence measure. Each of the four measures of intelligence were correlated with leadership and companionship measures. The rank-difference correlations presented in Table 3 show that both the JL scores and PL scores are significantly related to nonverbal deductive reasoning (ND) in both Groups 1 and 2. This suggests that the higher the individual's leadership status in the group (as rated by judges or peers) the greater is his ability to draw correct inferences from given facts. Relationships of leadership measures to other intelligence measures are found to be insignificant, except the correlations between PL and verbal scores (V) (rho = .46, $p < .05$) and between PL and nonverbal inductive reasoning (NI) (rho = .46, $p < .05$) in Group 1. There seems to be no reliable relationship between companionship and intelligence measures.

d. Relationship among the three factors of PIB. In order to determine the extent to which each PIB factor is related to the other two factors, intercorrelations among the three SPIB scores and among the three PPIB scores in each of the three groups were calculated. These correlations, presented in Table 4, show a consistent pattern of relationship. Factors B and C seem to

be independent. None of the rank correlations between Factors B and C reaches the .05 significance level. On the other hand, each of the Factors B and C is negatively related to Factor A; therefore, in each of the three groups passive dependency and sociability are independent of each other—whereas dominance or control is negatively related to dependency and sociability.

2. *Analysis of Self-Description Scores*

a. High and low leader groups. On the basis of PL scores, in each group *S*s were ranked from those securing high PL scores to those securing low PL scores. The top six *S*s from each of the three groups (1, 2, and 3) formed

TABLE 4
RANK ORDER INTERCORRELATIONS AMONG THE THREE PIB FACTORS, A (CONTROL), B (DEPENDENCE), AND C (SOCIABILITY)

Scores	Group 1 ($N = 19$) Factor B	Group 1 ($N = 19$) Factor C	Group 2 ($N = 16$) Factor B	Group 2 ($N = 16$) Factor C	Group 3 ($N = 15$) Factor B	Group 3 ($N = 15$) Factor C
SPIB						
Factor A	−.41	−.57*	−.68**	−.60*	−.73*	−.65**
Factor B		−.29		.01		.08
PPIB						
Factor A	−.92**	−.68**	−.80**	−.85**	−.96**	−.52*
Factor B		.42		.43		.39

Note: SPIB and PPIB scores represent *S*'s perception and peers' perception of *S*'s interpersonal behavior, respectively.
* $p < .05$ for two-tailed test.
** $p < .01$ for two-tailed test.

the high-leadership-status group (HL), and the bottom six *S*s from each of the three groups formed the low-leadership-status group (LL). The object of forming these two groups was to see if *S*s in them differ in evaluating self in terms of the three factors of interpersonal behavior. The results (see Table 5) show that the groups do *not* differ in self-descriptions.

b. High and low leisure-time-companion groups. On the basis of PC scores, two groups were formed—one high-companion (HC) group and one low-companion (LC) group. Three *t* tests show that the groups do not differ significantly.

c. Accuracy of self-description. Taking the three PPIB scores as criteria, HL and HC groups differ from LL and LC groups respectively in accuracy of self-description. The greater the absolute difference between PPIB and SPIB scores, the less is the accuracy of self-description. Taking such absolute

TABLE 5
MEANS AND STANDARD DEVIATIONS OF SPIB AND PPIB SCORES IN HIGH AND LOW LEADERSHIP AND COMPANIONSHIP GROUPS

Scores	HL Group ($N = 18$) M	SD	LL Group ($N = 18$) M	SD	t	HC Group ($N = 18$) M	SD	LC Group ($N = 18$) M	SD	t
Factor A (Control)										
SPIB	.583	.279	.451	.247	.77	.458	.309	.562	.241	.36
PPIB	.589	.123	.371	.128	2.14*	.502	.207	.381	.149	.64
t	.08		2.96**			.66		4.41***		
Factor B (Dependence)										
SPIB	.382	.183	.424	.254	.08	.417	.224	.368	.198	.22
PPIB	.371	.100	.549	.127	1.62	.385	.152	.533	.134	.98
t	.23		.50			.67		3.37**		
Factor C (Sociability)										
SPIB	.511	.183	.625	.220	.76	.521	.217	.570	.220	.20
PPIB	.546	.048	.597	.180	.05	.535	.148	.584	.052	.42
t	.77		.55			.66		.28		

Note: SPIB and PPIB scores represent *S*'s perception and peers' perception of *S*'s interpersonal behavior, respectively. HL = high leadership, LL = low leadership, HC = high companionship, LC = low companionship.

* $p < .05$ for two-tailed test.
** $p < .01$ for two-tailed test.
*** $p < .001$ for two-tailed test.

TABLE 6
MEANS AND STANDARD DEVIATIONS OF THE ABSOLUTE DIFFERENCE BETWEEN PPIB AND SPIB SCORES FOR EACH OF THE THREE FACTORS, A (CONTROL), B (DEPENDENCE), AND C (SOCIABILITY) IN HIGH AND LOW LEADERSHIP AND COMPANIONSHIP GROUPS

Group	Factor A (PPIB ~ SPIB) M	SD	Factor B (PPIB ~ SPIB) M	SD	Factor C (PPIB ~ SPIB) M	SD
HL Group ($N = 18$)	.278	.126	.187	.118	.172	.08
LL Group ($N = 18$)	.168	.158	.261	.180	.166	.122
t	4.21*		.85		.06	
HC Group ($N = 18$)	.235	.154	.162	.132	.140	.091
LC Group ($N = 18$)	.190	.162	.219	.150	.175	.124
t	.35		.45		.33	

Note: SPIB and PPIB scores represent *S*'s perception and peers' perception of his interpersonal behavior, respectively. HL = high leadership, LL = low leadership, HC = high companionship, LC = low companionship.

* $p < .001$ for two-tailed test.

difference scores in HL and LL groups, it is observed (see Table 6) that in the case of Factor A, the HL group is significantly less accurate in self-description than the LL group ($t = 4.21$, $p < .001$). With respect to the other two factors both the groups do not differ significantly. The same kind of analysis with HC and LC groups reveals that both the groups are not significantly different from each other in their means of absolute difference scores for each of the factors. Related to the problem of accuracy of self-description is the question of whether *S*s in HL or LL group consistently overestimate or underestimate themselves in relation to the criteria of PPIB scores. In the HL group, for each of three A, B, and C factors, the mean PPIB scores are not significantly different from the mean SPIB scores (see Table 5). This suggests that *S*s of the HL group do not either overestimate or underestimate themselves in relation to what their peers describe about them. On the other hand, in the LL group, in the case of Factor A, the means of SPIB and PPIB scores significantly differ ($t = 2.96$, $p < .01$). The *S*s in the LL group, therefore, consistently overestimate themselves as showing more of influence and control than what their peers describe about them (see Table 5). Similar analysis in the LC group reveals that in the case of both Factors A and B, the means of SPIB and PPIB scores differ significantly. Mean scores presented in Table 5 indicate that *S*s who are less popular as leisure-time companions overestimate themselves with respect to their influence and control type of behavior ($t = 4.41$, $p < .001$) and also underestimate their passive dependence ($t = 3.37$, $p < .01$). In the HC group, however, no significant difference is observed between means of SPIB and PPIB scores for any of the factors.

3. *Assumed Similarity and Self-Description*

Besides the PIB measures described earlier, two other sets of PIB scores for each *S* were calculated in order to test the hypothesis that one perceives those whom he likes most as more similar to himself than those whom he likes least. One set of PIB scores represented description in terms of the three factors by the *S* of those individuals with whom he spent maximum of his leisure time. These scores are therefore *S*'s description of the most-liked companions (PIBL scores). Similarly, the other set of PIB scores represented description by the *S* of those individuals with whom he spent minimum of his leisure time. These scores therefore would indicate *S*'s description of the least-liked (or disliked) companions (PIBD scores). It may be noted that SPIB, PIBL, and PIBD scores are all descriptions by the *S* about himself, liked companions, and disliked companions, respectively. When an *S* indicated

that he spent his maximum leisure time with only one person, his descriptions of that person were converted to three scores, in the same way as described earlier for SPIB scores. However, when an *S* indicated that he spent maximum time with more than one person, his description of each of these was first converted to three different scores, one score representing each factor. For each factor the scores for all the persons described by the *S* were summed and divided by the number of persons described to yield a PIBL score for the *S*. Similar procedure was followed to derive PIBD scores for each *S*, except

TABLE 7
MEANS AND STANDARD DEVIATIONS OF THE ABSOLUTE DIFFERENCE BETWEEN SPIB AND PIBL SCORES, AND BETWEEN SPIB AND PIBD SCORES FOR ALL 50 *Ss*

Factor	SPIB ~ PIBL scores		SPIB ~ PIBD scores		
	M	*SD*	*M*	*SD*	*t*
Factor A (Control)	.236	.218	.271	.220	1.18
Factor B (Dependence)	.175	.135	.245	.158	2.50*
Factor C (Sociability)	.162	.142	.179	.159	.62

Note: SPIB, PIBL, and PIBD scores represent *S*'s perception of his own, of his most-liked companion's, and of his least-liked companion's interpersonal behavior, respectively.

* $p < .02 > .01$ for two-tailed test.

that in this case *S*'s description of persons with whom he had spent minimum time was taken into consideration.

For any given factor, the greater the absolute difference is between SPIB and PIBL scores, the less is the similarity between self and the most-liked companion. Likewise, the greater the absolute difference is between SPIB and PIBD scores, the less is the similarity between self and the least-liked companion. According to the assumed similarity hypothesis, therefore, the absolute difference (disregarding the algebraic signs) between SPIB and PIBL should be less than the absolute difference between SPIB and PIBD. With all *Ss* in the three groups combined ($N = 50$), *t* tests were run to test the significance of difference between the means of SPIB ~ PIBL scores and the means of SPIB ~ PIBD scores. An examination of Table 7 reveals that even if for each of the three factors mean SPIB ~ PIBL scores are less than mean SPIB ~ PIBD scores, only in the case of Factor B does the difference become significant—therefore, only with respect to passive dependence is the most-liked companion perceived as more similar to *S*'s self than the least-liked companion. Further it is of interest to find out whether an *S* overestimates or underestimates himself in relation to the description of the most- and least-liked companion. This is done by comparing *S*'s SPIB scores with PIBL

scores on the one hand and with PIBD scores on the other. Again with the *S*s combined ($N = 50$), differences between the means of SPIB and PIBL and between the means of SPIB and PIBD for each of the three factors were tested. Results presented in Table 8 suggest that, as compared to their own selves, *S*s significantly understimated the control kind of behavior (Factor A) and overestimated the dependency kind of behavior (Factor B) in their least-liked companions. However, there appears to be no such significant trend in comparisons of self with most-liked companion.

TABLE 8
MEANS AND STANDARD DEVIATIONS OF SPIB, PIBL AND PIBD SCORES FOR ALL 50 *S*s

Factor	SPIB scores		PIBL scores		PIBD scores			
	M	*SD*	*M*	*SD*	*M*	*SD*	t_1†	t_2†
Factor A (Control)	.510	.257	.437	.243	.398	.200	1.64	2.40*
Factor B (Dependence)	.405	.201	.450	.187	.557	.166	1.45	4.29**
Factor C (Sociability)	.584	.203	.603	.183	.544	.148	.66	1.23

† SPIB = subject's perception of his own interpersonal behavior, PIBL = subject's description of most-liked companion, PIBD = subject's description of least-liked companion. t_1 refers to values obtained for the mean difference between SPIB and PIBL scores. t_2 refers to values obtained for the mean difference between SPIB and PIBD scores.

* $p < .05$ for two-tailed test.
** $p < .001$ for two-tailed test.

4. *Leadership and Assumed Similarity of Opposites*

It has been pointed out that PIBL and PIBD scores represent *S*'s descriptions of his most-liked and least-liked companions. The smaller the absolute difference is between PIBL and PIBD scores of an *S*, the greater is his psychological closeness shown toward his least-liked companion. It was hypothesized that persons having high-leadership status in these informal groups would exhibit more of such psychological closeness and perceived similarly between most-liked and least-liked companions than persons having low-leadership status. For the HL and LL groups the difference between the group means of PIBL ~ PIBD scores for each of the factors was tested. In the HL group the means are .257, .257 and .145; and in the LL group, the means are .179, .178, and .146 for Factors A, B, and C, respectively. For none of the factors are the mean differences between the two groups statistically significant.

D. DISCUSSION

The results demonstrate that analysis of behavior of individual group members in terms of interpersonal behavior categories can further understanding in the area of perceptual sociometry. Perceived-leadership role is

clearly associated with a high level of dominance and control type of interpersonal behavior and a low level of dependence and withdrawal. Strangely enough, leadership role is perceived by the group members to have no relation to sociable and affiliative kinds of interpersonal behavior. Absence of sociability in leadership role is probably due to the authoritarian attitudes of the group members in the Indian cultural setup. The role of a leisure-time companion as perceived by the group members has no consistent relation to any of the three broad categories of interpersonal behavior.

The most interesting result of the present study is the relationship between leadership and nonverbal deductive reasoning (ND). Of the three nonverbal intelligence measures used, only ND is significantly related to PL and JL in both Groups 1 and 2. Deductive reasoning involves drawing appropriate conclusions or inferences from the available information (1, p. 2). The other two nonverbal tests aim at assessing inductive reasoning and hypothesis testing (NH). Inductive reasoning requires that the *S* formulate a rule or principle as such, governing a set of phenomena on the basis of perceived similarity among elements of a given situation. Hypothesis testing, on the other hand, involves the ability to verify or check alternate hypotheses to account for a given phenomenon. Of these three reasoning abilities, the ability to draw appropriate conclusions from given facts seems to be crucial for leadership role.

With respect to accuracy of self-description, it was observed that the HL group is significantly less accurate in describing their own influence and control (Factor A) type of behavior than the LL group. On the other hand, members of the LL group, though closer in self-description to peers' perception of their behavior than members of the HL group, consistently overestimated themselves as showing more of influence and control than their peers perceived in them. The HL group, however, did not show any consistent trend toward overestimation or underestimation. These findings suggest that with respect to influence and control type of behavior, the leader perceives himself very differently from what his peers perceive in his overt behavior. While the individual with high-leadership status is also more intelligent than the individual of low-leadership status, his overt behavior in the group is possibly more of a conscious acting on his part to maintain his leadership status than misperception on his part. Consideration of the assumed similarity hypothesis in the present study leads to the conclusion that only in the case of passive dependence and withdrawal type of behavior (Factor B) is the most-liked leisure-time companion perceived more similar to the *S*'s own self than the least-liked companion. The least-liked companion

is perceived to be a passive and withdrawn type of person who shows less of influence and control over others. The most-liked companion, however, is not perceived in this manner. Further, the hypothesis that the HL group would perceive greater similarity between the most-liked and least-liked companion than the LL group is not supported by the findings of the study. In fact, the HL group yield higher means of ASO scores (PIBL-PIBD scores) than the LL group. It may be pointed out that Fiedler (5) also observed no systematic difference between ASO scores of reputedly good and poor leaders.

E. Summary

An attempt has been made to measure interpersonal behavior in terms of three broad categories of control, dependence, and sociability and to explore the implications of such a classificatory scheme for sociometric perceptions of individual members in groups. Further, the study also deals with the relationship between reasoning ability and leadership or companionship role of the individual. The results indicate that (*a*) perceived leadership role is associated with more of dominance and control type of interpersonal behavior and less of dependence and withdrawal; (*b*) with respect to control type of behavior, the leader perceives himself very differently from what his peers notice in his behavior; (*c*) only in the case of dependence type of behavior, the most-liked companion is perceived similar to *S*'s own self; (*d*) good and poor leaders do not differ with respect to their perception of similarity between the most- and least-liked companion; and (*e*) the ability to draw correct inferences from given facts seems to be crucial for leadership role.

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THE MOTIVATIONAL EFFECTS OF COOPERATION AND COMPETITION IN THE MEANS-INDEPENDENT SITUATION* [1]

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A. INTRODUCTION

Although the effects of cooperation and competition on performance have been investigated periodically for many years (1, 8, 10, 12, 13), it was not until recently that a theoretical analysis of these terms was undertaken (2, 3). Of particular interest for the purposes of the present investigation is the hypothesis (developed by Deutsch) that the cooperative situation motivates individuals more highly than a competitive one. While the results of a number of studies support this hypothesis (3, 4, 11), several others (5, 10, 13) imply that competition may be more highly motivating than cooperation.

In a recent publication, Raven and Eachus (9) extend Deutsch's formulations to include those conditions under which competition might motivate individuals more highly than cooperation. Specifically, these authors suggest that if the solution of the experimental task requires the pooling of information or skills (means interdependence), then, due to increased task enjoyment and friendliness, motivation will be higher in the cooperative situation. However, if the nature of the experimental task is such that no interaction or pooling of information is necessary (means independence), motivation will probably be higher in the competitive than in the cooperative situation.

Although the means-independent situation was used previously by Shaw (10), his findings are inconclusive because performance was better under cooperative conditions. It is important to note, however, that Shaw required his subjects to perform relatively difficult experimental tasks; hence the competitive subjects may have been more highly motivated, but the occurrence of competing responses impaired their performance (6, 10).

In both of the following experiments it is hypothesized that the competitive situation is more highly motivating than a cooperative one. However,

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whether this heightened motivation will be reflected in superior performance is predicted to be a function of task difficulty. When the experimental task is of considerable simplicity (Experiment I), performance is predicted to be better in the competitive than in the cooperative situation; however, when a comparatively difficult task is employed (Experiment II), competing responses are expected to impair the performance of the competitive subjects. Consequently, performance is predicted to be better under cooperative than under competitive conditions.

B. Experiment I

1. *Method*

a. Apparatus. Two square cubicles, three feet by three feet, were placed facing each other. Inside each cubicle was (*a*) a small light that signalled the start of each trial, (*b*) five telegraph keys arranged in a row directly in front of *S*, and (*c*) a single button that *S* was required to depress during the intertrial interval. The depression of this button activated a noise device that *S*s were led to believe was a random-number generator used to determine which telegraph key would be "correct" on the next trial.

b. Subjects and procedure. Fourteen male volunteers from the introductory-psychology courses were randomly assigned to each of the two conditions. *S*s were taken into the experimental room in pairs and were informed that the apparatus represented a simulated horserace in which five horses were running. All *S*s were told that the experiment was designed to test their extrasensory abilities and that their task was to predict correctly which of the five horses (telegraph keys) would be the winner of each of the several races. All *S*s were told that depression of the button during the intertrial interval was necessary to start the random-number generator. For the purposes of the experiment, however, the depression of the button served only to insure that all *S*s began each trial 12 inches from the telegraph keys.

Identical instructions were given to *S*s in both conditions, with the exception that cooperative *S*s were told their scores would be combined; while competitive *S*s were told that they should try to predict more accurately than their opponents. It was explained to all *S*s that the analysis of the predictions would take several weeks and, for that reason, no knowledge of the results could be given.

The response measure recorded was the time required for each *S* to depress one of the telegraph keys after the start signal had flashed. Two standard electric timers, one for each *S*, provided the measures of response latency. Interviews following the experimental sessions indicated that all *S*s believed

the directions to concentrate on predictive accuracy, and none realized that reaction time was in any way important.

2. *Results*

The latency measures for each *S* were transformed to speed scores equal to 100 times the reciprocal of the reaction time. For purposes of analysis, these scores were then combined into five blocks of eight trials each.

Figure 1 presents the mean speeds of the two groups and shows that the

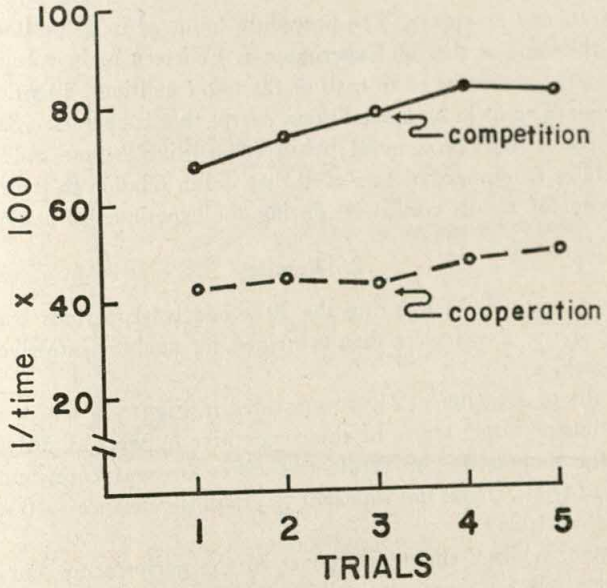

FIGURE 1
MEAN SPEEDS

speeds of the competitive *S*s were considerably faster than those of the cooperative *S*s. This was substantiated by the statistical analysis [Lindquist, Type I, (7)], which shows the main effects of cooperation *vs.* competition to be significant beyond the .001 level ($F = 12.85$, $df = 1, 26$).

In addition to the difference between the mean speeds of the two groups, it can also be seen that the speeds of both groups gradually increased over blocks of trials. This was reflected by a significant trials' effect ($p < .001$, $F = 5.86$, $df = 4, 104$). Although a slight divergence of the curves occurs over the five blocks of trials, this was not sufficient to attain significance ($.10 < p < .20$, $F = 1.58$, $df = 4, 104$).

C. Experiment II

1. *Method*

a. Apparatus. The same cubicles were used as in Experiment I; however, in place of the telegraph keys, a Lafayette pursuit rotor was placed in each cubicle. These were synchronized, so that the onset of the work periods (20 seconds) and rest periods (20 seconds) was identical for each *S*. Rotor speed was set at 60 rpm. Each *S*'s time on target was recorded by a standard electric timer.

b. Subjects and procedure. The procedure followed in Experiment II was essentially the same as that of Experiment I. Fourteen male volunteers were randomly paired and assigned to each of the two conditions. Identical instructions were given to *S*s in both conditions, except that cooperative *S*s were told that their scores would be summed; while competitive *S*s were told that their scores would be determined by how well they did in relation to their opponent. No knowledge of results was given during the experimental session.

2. *Results*

Time on target (TOT) during the 20-second work periods was recorded for each *S*. These scores were then combined for analysis into five blocks of five trials each.

The results of Experiment II are presented in Figure 2, which shows that the mean time-on-target scores of the competitive *S*s were slightly above the scores of the cooperative *S*s. While this difference was consistent over the five blocks of trials, it was not sufficient to attain significance ($.10 < p < .20$, $F = 117$, $df = 1, 26$).

In addition, while a slight divergence of the performance curves can be detected, this fell far short of significance ($F < 1$, $df = 4, 104$). The increase in performance level of *S*s in both groups was reflected in a significant trials' effect ($p < .001$, $F = 117$, $df = 4, 104$).

D. Discussion

While the results of Experiment I confirmed the initial hypothesis, the results of Experiment II revealed that (contrary to predictions) the scores of the cooperative *S*s were slightly lower than those of the competitive *S*s. The most reasonable explanation for this finding is that the pursuit-rotor task was not sufficiently complex to insure the occurrence of competing responses. While nearly all *S*s reported the task difficult to perform, competing responses probably remained at a relatively low level since the same radial arm move-

ment was used on each trial. However, if the results of the present study can be considered in conjunction with Shaw's findings, it appears that task variables do interact with motivation level; thus determining whether competition inhibits or facilitates performance in the means-independent situation.

While the above results indicate that task complexity determines the effect competition has on performance, at least two additional variables warrant further investigation because they may determine the level of motivation

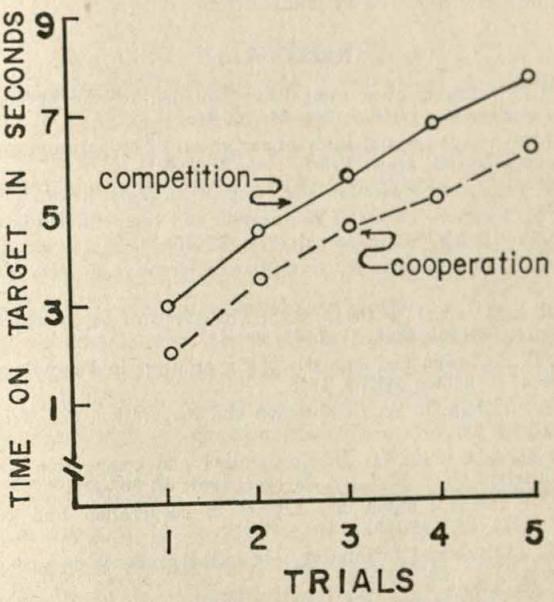

FIGURE 2
MEAN TIME ON TARGET

induced by the competitive situation. First, if competitive *S*s evaluate themselves in relation to their opponents, as Raven and Eachus suggest (9), then it is reasonable to expect the motivation changes resulting from this comparison to be related to the proximity of the opponent. That is, motivation should be higher in a competitive situation when the opponent is present and visible than in a situation not involving the physical presence of the opponent.

In addition to the proximity of the opponent, the knowledge of one's own performance in relation to that of the opponent should also affect the level of motivation induced by competition. In this instance, it seems reasonable to expect some form of an inverted-U function to result from the comparison

of own-opponent performance levels and motivation to compete. Always beating or always losing to the opponent would almost certainly be less motivating than some more nearly equal proportion of wins and losses.

It appears, then, that if accurate predictions are to be made concerning the effects of competition of performance, not only must careful consideration be given to the nature of the interaction between task variables and level of motivation; but, also, consideration must be given the variables that determine the level of motivation induced by competition.

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CONSEQUENCES FOR AGREEING WITH ANOTHER'S WRONG JUDGMENTS*

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A. INTRODUCTION

In his seminars on social psychology in 1937, at the New School for Social Research, the late Max Wertheimer repeatedly pointed out that the then current studies of social influences on judgment and perception tended to be one-sided insofar as no objective evidence was given to subjects on which to base their judgments. This led us to design a series of studies (e.g., 13, 14) wherein evidence was furnished on which subjects could base their judgments. It was found that the introduction of evidence did not necessarily lead to responses based on it. Under certain experimental conditions, subjects could be made to agree with another person's incorrect responses or to disagree with another person's correct responses. These subjects' judgments seemed to reflect what was correct in terms of social reality rather than in terms of the assigned objects of judgment. Since publication of this work almost a quarter of a century ago, considerable experimental data has accumulated (2) which points in the same direction. Such findings have been interpreted by some psychologists as attesting to the primacy of social reality.

It seems to us that the issue is not whether social reality or the assigned object of judgment is the primary determinant of judgments in social situations. It may be more fruitful than past methods to raise the problem of what can be done to strengthen (or to weaken) the influence of one or the other in social-judgment situations. Perhaps in the experiments to which reference has been made, the stimuli from social reality were more evident by being more compelling than the object of judgment. What can be done to make the objective evidence more compelling and more likely to be taken into account than formerly? This is not merely a theoretical issue but a practical one related to the prediction and control of behavior.

In the usual experiment on social influences, there are no consequences to the subject for ignoring the evidence. As in many social situations, the correct

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thing to do is to say what others say. (In fact, disagreement with the judgment of another person or with the choice of a group may have repercussion on one's status.) This is also the case in our previously reported experiments on the judgment of the length of line segments (13, 15). There is nothing in the drawings of line segments to compel the subject to select the objectively shorter one. The social situation, however, may compel some subjects to focus on what is socially called correct. The important thing is not the particular line that is chosen but to be socially correct, just as it is *not* the length of one's dress or the width of one's lapel that is important—it is to be in style. There are, however, life situations in which there are definite consequences for ignoring the evidence and following social reality. It is necessary, therefore, to widen the scope of our studies of social influences on perception and judgment before one generalizes from consequence-free situations to all social-judgment situations.

In previous experiments on the judgment of line segments (13, 15), we found that an effective method of producing agreement with someone else's incorrect choices—choices overheard by the subject—was for the experimenter to confirm the overheard responses by saying that the person who gave them had secured 100 per cent on the test. What would happen if, just prior to this experiment, the subject had failed to solve a task as a consequence of having agreed with the other person's objectively incorrect choices? Would such prior experience lead the subject to expect negative consequences for agreeing with the other person's objectively incorrect choices and sensitize him to the evidence furnished by the line segments? It is with such problems that the present experiments are concerned.

B. Subjects and General Procedure

The subjects were 55 college students and 45 sixth-grade and seventh-grade elementary-school children. All the experiments were administered to two individuals at a time: one of them a subject; the other, the experimenter's preinstructed confederate who was about the same age as the subject.

There were three phases in each experiment: (*a*) a training phase (Part I); (*b*) a consequence phase (Part II), in which the subject had an opportunity to see the consequences of agreeing with the confederate's incorrect choices in the first phase; and (*c*) a test phase (Part III) in which the line segments were judged.

In the training phase (Part I), the task was to select the smaller of two geometric cardboard cutouts. After the confederate stated and pointed to his choice in the presence of the subject, the subject was asked to make his choice;

thus the subject overheard the confederate's response before he himself responded. In this manner five pairs of geometric forms—rectangles, hexagons, diamonds, squares, and triangles—were presented, one at a time. In each pair, the form to the right of the students was larger in area and in each dimension than the one to their left. The difference in area between the members of a pair increased in successive pairs: e.g., for the first pair, the difference was 5/32 of a square inch; whereas for the last pair it was 33/32 of a square inch. Throughout Part I, the confederate always went first and selected the larger form even though the smaller one was requested.

After both the confederate and the subject had judged the fifth pair, the experimenter calculated the scores and announced them in the presence of both individuals. The confederate was told that he had 100 per cent on the test. The subject was given as his score the percentage of times that he had agreed with the confederate, but he was *not* told on what basis his score was calculated. He was told, however, that the test would be readministered so that he "too could have an opportunity to get 100 per cent." In this way, the entire series of geometric forms was presented again and again (but with a maximum of five trials) until there was complete agreement with the confederate throughout a trial.

Part II began immediately after the last presentation of the series of cutouts. The experimenter placed before the subject all the cutouts that he had chosen on the last trial; also, a cardboard form board in the shape of a house. The experimenter then said to the subject:

> If you chose correctly before, the pieces will fit the gaps in this house. The pieces you selected represent windows and doors and should fit the gaps. Put the pieces which you selected in their proper places.

The subject was asked why the pieces fitted or did not fit. He was encouraged to use the other member of a pair of cutouts if the one he had selected did not fit. He realized or was helped to realize that none of the cutouts that the confederate had selected fitted the form board. The confederate sat by but did not participate in the gap-fitting phase, which may be regarded as the "consequence" phase of the experiment.

Immediately after the "consequence" phase, there came the test phase (Part III) in which both the confederate and the subject participated. A series of five cards was presented, one at a time. On each card was drawn a small square with two line segments jutting out of the sides at different angles. The difference in the lengths of the line segments increased in successive pairs, from one-sixteenth of an inch in the first pair to one-half of an inch in

the fifth pair [see Luchins (13) for drawings of the lines]. The assigned task was to select the shorter line, but the confederate consistently chose the longer one in each pair. As in the first phase, the subject responded after overhearing the confederate's responses. The line segments were presented in the same way as the cutouts, until there was agreement throughout a trial, with a maximum of five trials. As in Part I, after each trial the experimenter announced that the confederate had 100 per cent on the test and gave the subject's score as the percentage of times that he had made the same selection as the confederate.

At the conclusion of Part III, the experimenter excused himself for a few minutes and left the room. The confederate then asked the subject, "What is this all about?" in an effort to elicit his reactions. When the experimenter returned, the confederate was excused. Most subjects were then given one more trial with the line segments. During this retest (administered only to the subject), the experimenter made no mention of scores. The subject was then reminded of the answers he had given on the last trial of Part III. These answers were compared with his answers on the retrial, and he was asked why they were the same or different. Finally, the subject was questioned about his reactions to the confederate's answers and to the experimenter's announcements of scores.

The described procedure was used in Experiments A and B. In Experiments C and D the procedure was varied by omitting any reference to scores on the test. In other words, in Experiments C and D the experimenter did not confirm the confederate's incorrect choices either in the series of cutouts or the line segments. Each series was presented with half-minute pauses between trials, for a maximum of five trials, until there was complete agreement with the confederate.

1. *Experiment A*

The described procedure (including the announcement of scores in Parts I and III) was administered to 35 college students, with a college student serving as the confederate. In Part I only one subject agreed with the confederate throughout a trial: i.e., made the same incorrect choices as the confederate in all five pairs of cutouts. There were 25 subjects (71 per cent) who never agreed with the confederate in Part I. Consistently they chose the objectively smaller cutout. On each of the third, fourth, and fifth trials, the subjects as a whole showed 20, 17, nine, nine, and nine per cent agreement with the confederate's wrong choices on the first pair through the fifth pair of cutouts respectively.

When the subjects were presented with the form board of the house in Part II, those who had selected correctly on the last trial of Part I were readily able to fill the gaps. Those who failed to fill one or more gaps realized or were made to realize that the cutouts they had rejected fitted the gaps. Of interest are subjects' comments in this gap-fitting or "consequence" phase of the experiment, particularly because of what happened in Part III. The 25 subjects who had never agreed with the confederate in Part I said words to this effect: "See, I was right," or "Well, they fit, so I was correct after all." Those who had made an objectively incorrect selection one or more times in Part I said words to this effect: "Perhaps these pieces weren't cut from here," "Should this one fit?" "Are you sure that this is the piece I took?" "They almost fit," "Maybe they are supposed to fit like this," "Let's forget about the whole thing."

When the series of five pairs of line segments was presented (Part III), the same subject who had agreed with the confederate throughout a trial in Part I (and thereby failed to fit the cutouts in the gaps of the house in Part II) again agreed with the confederate's incorrect choices in every pair of line segments. Moreover, two subjects who had never agreed with the confederate in Part I agreed with him in all five pairs of line segments. On the fifth trial, the subjects as a whole showed 51, 14, 11, 14, and 14 per cent agreement with the confederate's wrong choices, with a mean of 21 per cent. Of interest is the fact that some subjects who had failed to fill the gaps in Part II, as a consequence of having agreed with the confederate in Part I, again agreed with him in Part III. Moreover, some of those who had not agreed in Part I, and who had realized that this resulted in their success in Part II, nonetheless agreed with the confederate's incorrect choices in Part III (particularly in the first pair of line segments).

2. *Experiment B*

The procedure of Experiment A was used with 30 elementary-school children of the sixth and seventh grades. One of the children served as a confederate. On the fifth trial of Part I, the children showed a mean of 51 per cent incorrect answers compared to 21 per cent for the college students. We divided the children into three groups: 13 children who agreed with the confederate's answers throughout a trial in Part I; 12 children who never agreed with the confederate in Part I; and the five remaining children who varied their responses on each trial of Part I. In Part II, the first group, of course, was not able to fit any of the selected cutouts into the gaps in the house; the second group was able to fill all the gaps; and the third group

was able to fill some but not all of the gaps. What was the fate of each group in Part III, the line-judgment phase of the experiment?

The 13 children who had agreed with the confederate throughout a trial in Part I and therefore failed Part II might be expected to have little inclination to follow the confederate's wrong choices in Part III. Although there was a small decrease in agreement, more than four-fifths of these subjects still agreed with the confederate. They showed 92, 84, 84, 84, and 84 per cent agreement with the incorrect choices in the first pair through the fifth pair of lines respectively. Seven of these 13 subjects agreed with the confederate's wrong judgments in every one of the pairs of lines on their first presentation, before the experimenter gave his verdict as to who had 100 per cent. These same subjects did not do so in Part I when they received the series of cutouts for the first time. Part II apparently did not lessen their inclination to agree with the confederate.

The 12 children who never agreed with the confederate in Part I were able to fit the cutouts into the gaps in the house. Moreover, they realized, or were made to realize that the cutouts that they rejected, but which the confederate selected, did not fit. One could reasonably expect, therefore, that in Part III these subjects would still not agree with the confederate's incorrect choices. However, in spite of the fact that their selection in Part I had led to success in Part II, some of them agreed with the confederate in Part III. One of these subjects did so throughout the second trial. On the fifth trial, this group (which had shown no agreement in Part I) showed 56, 16, 16, eight, and 16 per cent agreement with the confederate's wrong choices in Part III. Note that about half of these subjects agreed only on the first pair of lines, which was the most ambiguous.

Of the five subjects who varied their answers in Part I, none showed agreement throughout a trial in Part III. On the fifth trial they showed 40, 40, 40, 20, and zero per cent agreement.

Behavior and comments of the children, during and after the experiment, indicated that they viewed the experiment as a test and were concerned with getting a good score. The confederate's choice, coupled with the experimenter's verdict, apparently constituted a more compelling force for some children than the actual requirements of the tasks and may have vitiated the effect of Part II. In order to lessen the pressure of the social factors on the children, it was decided to vary the procedure by not announcing any score on the test. This was done in Experiment C.

3. *Experiment C*

The subjects were 15 children of the sixth and seventh grades. The procedure differed from the previous experiment in that the experimenter did not announce a score on the test in either Part I or Part III. It should be kept in mind that, as in the previous experiments, the confederate gave incorrect responses in Part I and III and these were overheard by the subject before he himself responded. There was now a marked decrease in wrong choices. On the fifth trial, Part I yielded only 13, seven, seven, seven, and seven per cent agreement with the confederate, with a mean of eight per cent; and Part III, 47, seven, 13, seven, and zero per cent agreement, with a mean of 15 per cent. As in the previous experiments, there was (on the whole) more agreement with the confederate in Part III than in Part I (particularly in the first task), in spite of the experience furnished in Part II that the confederate had been wrong in Part I. Incidentally, the only subject who agreed throughout a trial with the cutouts also agreed throughout a series of lines.

4. *Experiment D*

Twenty college students were given the experiment, with no verdict by the experimenter, as was done in Experiment C. In Part I, not one subject agreed throughout a trial, and on the fifth trial there was no agreement. All were able to fill the gaps in the house in Part II. Although they realized that they were correct in choosing as they did in Part I, they did not entirely reject the confederate's choice in Part III. On the fifth presentation of the lines, they showed 30, zero, zero, zero, and zero per cent agreement with the confederate, with a mean of six per cent.

C. Survey of Results

Table 1 presents the percentages of incorrect responses that were obtained, in the various experiments, on the last trial with the cutouts and on the last trial with the line segments. The table also contains the results on the retrial when the line segments were shown to the subject after the confederate left the room.

1. The table shows that the children consistently gave more incorrect responses than the college students for both the cutouts and the line segments. The difference is particularly striking where the experimenter confirmed the confederate's incorrect judgments by announcing scores in Parts I and III. Comparing the last trials of Experiments A and B, we find that on the average

the children made 36 per cent more incorrect choices in the cutouts and 30 per cent more incorrect choices in the line segments than did the college students. Both differences are significant at the .01 level. Where the experimenter did not confirm the confederate's incorrect judgments by announcing scores, the children had eight per cent more incorrect judgments in the cutouts and nine per cent more in the line segments than did the college students. These differences are not statistically significant (at the .05 level).

2. Incorrect responses were more frequent when the experimenter confirmed the confederate's incorrect judgments by announcing scores. This was the case for both the children and the college students and for every cutout and every pair of line segments. On the average, the children made 41 per cent more incorrect choices in the cutouts and 36 per cent more incorrect choices in the line segments when the experimenter confirmed the confederate's responses than when the experimenter did not do so. These differences are significant at the .01 level. The corresponding differences were 13 and 15 per cent for the college students. It is of interest that the least incorrect judgments occurred when the subjects were college students and when the experimenter did not confirm the confederate's answers (Experiment D).

3. In each experiment, there was (on the average) more agreement with the confederate's wrong choices in Part III than in Part I, in spite of the intervening experience with the consequences of such agreement. The increase was particularly pronounced in the first pair of line segments for which incorrect responses were 31, 23, 34, and 30 per cent higher in Experiments A, B, C, and D, respectively, than they had been for the first pair of cutouts. These differences are statistically significant. The differences between Parts I and III in the remaining tasks are small and not statistically significant.

In Part II, those subjects who had selected correctly on the last trial with the cutouts were readily able to fill the gaps in the form board of the house. Those subjects who had agreed with the confederate on the last trial were not able to fill all gaps. Yet among both kinds of subjects there were some who agreed with the confederate's wrong choices in Part III.

4. In Experiment A, 25 of the 35 subjects were retested; in Experiments B, C, and D, all subjects were retested. Table 1 shows that, on the average, in every experiment there was some decrease in incorrect judgments on the retesting. The mean decreases, which are not statistically significant, were about the same for the children and the college students. Where the experimenter had confirmed the confederate's answers, the decrease from test to retest averaged seven per cent for the college students of Experiment A and the same for the children of Experiment B. Where the experimenter had not

confirmed the confederate's answers, the decreases averaged two per cent for the children of Experiment C and one per cent for the college students of Experiment D. The children had relatively more false judgments than the college students in both the test and retest. Note that the children of Experiment B showed a mean of 44 per cent incorrect judgments of the line segments in the retest, even though the confederate was not present and the experimenter now gave no scores.

TABLE 1
PERCENTAGES OF FALSE JUDGMENT

Condition and trial	Experiment* A ($N = 35$)	B ($N = 30$)	C ($N = 15$)	D ($N = 20$)
Training (cutouts)				
1	20	47	13	0
2	17	47	7	0
3	9	50	7	0
4	9	50	7	0
5	9	50	7	0
Mean	13	49	8	0
Test (line segments)				
1	51	70	47	30
2	14	50	7	0
3	11	50	13	0
4	14	43	7	0
5	14	43	0	0
Mean	21	51	15	6
Retest (line segments)**				
1	36	63	53	25
2	16	47	7	0
3	12	40	0	0
4	4	33	0	0
5	4	37	7	0
Mean	14	44	13	5

* Experiments A and D were given to college students; Experiments B and C to elementary-school children. The experimenter confirmed the confederate's incorrect judgments by announcing scores in A and B, but not in C and D.

** Retest was given to 25 *S*s in Experiment A and to all *S*s in other experiments.

5. One way of assessing the effects of Parts I and II on Part III is to compare the percentage of incorrect responses in the test period with those made by comparable subjects in a previous experiment where only the line segments were used; i.e., Parts I and II were not used. Instead, the five pairs of line segments were presented as in the test phase of Experiments A and B, with the experimenter confirming the confederate's incorrect answers by giving scores. The trials were given until the subject made the same choices as the confederate throughout a trial, but with a maximum of three trials. Although this maximum differed from the maximum of five trials allowed

in the present experiments, comparisons are feasible because in the test period of the present experiments there was little or no difference in the results for the third, fourth, and fifth trials with the line segments.

In the previous experiment, incorrect responses on the last trial with the five pairs of line segments were 60, 33, 20, 20, and 20 per cent, with a mean of 31 per cent for 15 college students and 80, 80, 64, 46, and 46 per cent, with a mean of 63 per cent for 15 elementary-school children. This was more than was found in Experiments A and B. The differences, which averaged 12 per cent for the children and 10 per cent for the college students, are not statistically significant. Thus, Parts I and II—despite the experience they provided of negative consequences for agreeing with the confederate—resulted only in small, statistically insignificant decreases in incorrect responses.

D. Discussion

A consistent finding was that there was more agreement with the confederate in Part III where the line segments were judged than in Part I where the cutouts were judged. One reason for this finding may be the manipulatability of the cutouts. In Part I, subjects often put the two cutouts side by side or one on top of the other before giving judgment; but in Part III it was not possible to put the two line segments side by side or one on top of the other. Nor did the subjects have a ruler or other means that they could use for objective comparison of the line segments. [See Luchins and Luchins (18) for experiments in which a ruler was used to measure the line segments.]

Another possible explanation of the finding is that the cutouts give more visual information than the line segments and all the information points in the same direction; i.e., in each pair the length, width, and area of one cutout are smaller than those of the other member. They might, therefore, be regarded as providing more guides or guides along more dimensions, while the line segments provide only the dimension of length as a relevant guide.

Another possibility, suggested by comments made by subjects during and after the experiment, is that they were troubled by not being able to see or say what the confederate reported. The line segments resembled optical illusions and gave the subjects an opportunity to stretch the truth; for example, some said that by taking into account the angles at which the lines jutted out from the square they were able to see that the line that appeared to be longer was actually shorter. Such stimulus supports for agreeing with the confederate were not provided by the cutouts in Part I, where the subject had unequivocally to reject what was objectively correct in order to be socially correct.

In every experimental variation, the most agreement with the confederate occurred on the first pair of cutouts and on the first pair of line segments. These were the most ambiguous pairs of each series, in the sense that the difference between the two members of each pair was smaller than in subsequent pairs. This finding lends support to the conjecture that it is in ambiguous and unclear situations that social forces tend to be most effective (8, 14, 21, 22).

Another consistent finding is that there were more incorrect judgments when the experimenter confirmed the confederate's incorrect responses. The experimenter may be regarded as the "authority" or power figure, and the results may be interpreted as showing the force of the authority in making for agreement with choices that are at variance with the evidence. It may not be out of place to mention here that although authority can be a potent force in making people distort, reinterpret, or become blinded to the requirements of the evidence, authority can also be used to make people face the evidence, to sensitize them, and open their eyes to see facts that they may be ignoring for social or personal reasons.

In every case, the children gave more false judgments than the college students—with the differences particularly striking when scores were announced. Comments made during and after the experiment suggested that the children were more concerned than the college students with what scores they made on the test—i.e., getting a high score seemed to be very important to the children. In the experiments where scores were not announced, the children more often than the college students appealed to the experimenter to tell them who was right. Moreover, the children seemed more anxious to please the experimenter and to be friendly with the confederate, which might have contributed to their tendency to agree with the false judgments. Still another possible factor was the children's immaturity and "persuasibility" (6). Finally, the children presumably had less experience and were less sure of their ability to judge sizes of lines and of geometric forms.

On retesting, some subjects gave the same incorrect answers that they had given before, even though the confederate was not present (and the experimenter gave no score). Perhaps, once they had committed themselves to a certain answer in the experimenter's presence, they persisted in it. What would happen if the subjects were retested by someone else or retested in a different setting? We have some evidence, from a previous study (15), that subjects who had given incorrect answers for the pairs of lines in the confederate's and experimenter's presence tended to give correct responses when several days later they were shown the cards again, in a casual manner, by someone

other than the experimenter or the confederate. Does one persist in a certain judgment when it is at variance with the evidence, as long as he senses the existence of the power or "authority" to whom he is committed?

That a subject gave the same response as the confederate did not necessarily mean that he agreed with him. Qualitative data suggest that some subjects' *impressions* of the objects of judgment were influenced by the overheard responses (and by the announcement of scores), whereas for other subjects only the reported *expressions* of their impressions were influenced; e.g., they reported as shorter the line that they actually regarded as longer. Some subjects, more often among the children, gave the same response as the confederate because it was "friendly" or "polite" to do so. (It is not uncommon in life for an individual to say or do what another says or does, even when it is at variance with the objective evidence, because of friendship or as a sign of politeness.) Some subjects gave the same responses as the confederate in order to get 100 per cent on the test. Some gave the same response as the confederate occasionally because they were testing some hypothesis or because they had decided to alternate responses, giving first one, then another. Some gave the same response as the confederate in an attempt to get him to change his answers. They hoped that the confederate would in subsequent judgments reciprocate and agree with what they said they saw. Some subjects gave the same response as the confederate in order "to kid" the confederate or the experimenter or "to go along with the joke." Since answers that are overtly the same as the socially proffered response may be brought about by a variety of reasons and processes other than agreement, we have proposed (17) that the term "convergence of responses" be used in place of "agreement" or "conformity" with another's response. Just as responses similar to the socially proffered ones do not necessarily indicate agreement or conformity, so dissimilar responses do not necessarily represent disagreement or nonconformity. Moreover, both conforming and nonconforming responses may result from social influences. For example, one may agree (conform, yield) because it is socially acceptable to do so or disagree because it is socially *not* acceptable to copy or imitate.

There were subjects who never agreed with the confederate and who continued to focus on the evidence. Some of them seemed to be annoyed and even shocked by the confederate's choices that were patently counter to the evidence. Regardless of what the confederate or the experimenter said, they reported what they saw and protested that they were right and that the confederate and experimenter were wrong. There are life situations where individuals will not be swayed from the object of judgment regardless of what

others say. Dramatic examples are furnished by cases in Nazi Germany where some individuals based their judgments on the object of judgment even when their judgments conflicted with Nazi doctrines. Some people persist in basing their judgments on the object of judgment, even though doing so separates them from many of their fellow men and even though they may be called deluded or obsessed. There is a need to study how such "obsessions" differ from the "obsessions" and "delusions" of the abnormal individual who also is separated from his fellow men by his judgments and perceptions.

That agreement was found with the incorrect judgments may be because the consequences for agreeing were not sufficient to deter the subject. Research is needed with more compelling consequences for agreeing with incorrect judgments. Examples of the kind of research needed (some already done in a preliminary way) are the following:

1. The task is to choose from a pair of metal handles the one that gives a weaker shock. As the intensity of the shock increases for one of the handles, will the subject continue to agree with the confederate's wrong choice? Will he agree when the shock is painful? Will the results differ if the subject feels the shock himself or if he views a meter registering the current?

2. The task is to select the cooler of two metal plates. The intensity of heat increases for one of the plates in successive presentations. Will the subject agree with the confederate even when the plate he chooses is painfully hot? Will the results differ if the subject himself touches the plates or if he views a thermometer registering the heat?

3. Given a pair of bottles with liquid in them, the task is to select the one with the more pleasant odor. Water is the solvent in both bottles; but in successive pairs there is added to one of them increasing amounts of a solute with an unpleasant odor: e.g., ammonia or hydrogen sulphide. Will the subject agree with the confederate's false choice? Will agreement be affected by the subject's knowledge that the contents of the bottles he chooses are to be sprinkled on him?

4. The task is to select the better tasting (or the less salty) of two liquids. Increasing amounts of bitter (or salty) solute are added to the water in one bottle in successive pairs. Will the subject, on tasting the contents, agree with the confederate's false choices? Will agreement be affected if the subject knows that he has to drink the entire contents of the chosen bottle?

The impact on the subject of the evidence and of the consequences of his choice are stronger in the foregoing than in the experiments with the lines and cutouts. One does not merely talk about but acts on, and is acted upon, by the evidence. A transaction takes place between the subject and the evi-

dence with certain consequences that "touch" or affect the subject more than being unable to fit a cutout into a gap. Our preliminary research indicates that the subjects tend to react to the impact of the concrete stimulus and to show it in their expressive behavior: e.g., by withdrawal of a hand or a grimace of disgust. Moreover, they tend not to agree with the confederate's responses, even when these are confirmed by the experimenter. Perhaps one reason for such results is that the subject knows that he gave himself away by his expressive behavior; to agree with the confederate would be telling an obvious lie. Another possibility is that the stimulus "touches" the subject too strongly for him to be able readily to reinterpret it in terms of the social context. It is of interest in further research to study whether or not the various sense modalities differ in their susceptibility to social influence.

A subject may be trained (or adapted) to tolerate the electric shock, the heat, or the distaste (perhaps because it shows "he is brave" and "can take it"); yet he may be unwilling to sprinkle himself with the hydrogen-sulphide solution (perhaps because he does not want to be a stench to others). In both situations, the subject may be considered to be socially oriented. Some subjects may be willing to be discomforted physically but not socially or *vice versa*. Willingness to tolerate discomfort in social situations constitutes a relatively unexplored factor that may be related to agreement or "conformity" with social forces. It is of interest to pit social discomfort (e.g., due to failure to obtain social approval for one's responses) against physical discomfort. An individual may be willing to withstand physical discomfort if he can develop a satisfactory meaning or interpretation of the discomfort. There are life situations (e.g., initiation rites, learning to smoke) where objects or events that produce discomfort are dealt with by the individual not in terms of their physical impact on him but in terms of some purpose, meaning, social interpretation, or other abstraction (1, 3, 7, 21, 22).

An individual who knows that he will have to join other groups may take a different view toward being sprinkled with the hydrogen-sulphide solution than one who knows that he may isolate himself; thus, social influences may depend on the subject's awareness of the implications of his choice. The particular judgment may be seen as isolated or as part of a broader class of events. The realm of consequences, as conceptualized by the subject, can be considered as the context in which his judgments take place; i.e., a context that may be confined to the present or may transcend it. Factors affecting the breadth of the cognitive grasp in problem-solving situations (5, 11, 12, 16, 26) may offer suggestions of variables that affect one's conceptualization of

the realm of consequences of his judgment and thereby affect the social influences on his judgment.

The young child, it has been said, lives in an intimate relation with particular objects and events. Such terms as *natural* (25), *egocentric* (19, 20, 24), and *concrete-minded* (4, 5) have been used to describe this intimate relation. As he grows older he learns not to react naively in terms of the immediate impact on him. He learns to abstract from his "concrete living reality." This helps to free him from the demands of his immediate environment (4, 5). The child, just as man in history, learns that things may not be what they appear to be at first glance, that reacting to things as they are given to his senses may sometimes lead him astray, and that abstractions may make for better understanding and more control of a phenomenon. As part of the growing-up or socialization process, he learns to think and perceive in terms of the abstractions and linguistic categories of his culture and to pay more attention to the requirements of social reality (1, 9, 10, 23). That social reality plays a role in social judgment is perhaps a consequence of this socialization process. But there may not be any direct relationship between susceptibility to social influences and the extent of socialization; for example, the children in our experiments showed more susceptibility to the social influences than the college subjects who presumably had been exposed longer to the socialization process. One may not only learn to agree but to disagree under the socialization process. Perhaps both agreement and disagreement with social influences reflect the effects of socialization (6).

There are some situations where adults still react much as would a naive child. Adults may still show "fear" reaction to lightning, even though they understand lightning in terms of abstractions from physics. The study of social influences on judgment and perception can profit from discovering and studying those aspects of social reality that are closer to the so-called naive or "primitive" reality of the young child as well as those that are farther away. Perhaps, if the evidence in an experiment on social judgment played the same kind of role in the subject's world as does the evidence in so-called naive experiences, then he would not so readily ignore the evidence.

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AUTHORITARIANISM AND SOCIAL PERCEPTIVENESS*[1]

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A. INTRODUCTION

Utilizing contrasting subsamples of *Ss* scoring high and low on the California F Scale, a number of investigators have compared the perceptiveness of authoritarians and nonauthoritarians at estimating degrees of authoritarianism in others. In theory, at least, authoritarians are more "rigid, extraceptive, repressed, conforming, stereotypical in their thinking, and intolerant of ambiguity" than nonauthoritarians (12, p. 181); therefore, they should be relatively insensitive to social differences, whereas those low in F should effectively employ available cues to distinguish between high and low authoritarians. Research findings, however, have failed to substantiate this hypothesis (4, 6, 7, 9, 11, 12). In the studies just cited, remarkably consistent patterns emerged.

1. No overall differences in social perceptiveness were found between authoritarians and nonauthoritarians. Only in Lipetz's study could the greater accuracy of low-F subjects at estimating levels of authoritarianism be attributed to keener sensitivity, but in that investigation behavior samples were contrived and unrealistic. Subjects were presented with atypically two-dimensional versions of high-F stimulus-person and low-F stimulus-person behavior *via* taped "mock-interviews."

2. Independent of whether they were judging high-stimulus or low-stimulus persons, authoritarians in all six studies tended to assign high F-scale estimates; whereas nonauthoritarians were more variable—their assessments falling within a middle range.

3. Apparently, as a reflection of the foregoing response tendencies and not of any capacity to discern social differences objectively, the *Ss* predicted best for those whose scores were most like their own in the F scale. Thus, even when accurate, the judges seemed guided by what Scodel and Mussen (12) call "extra-rational considerations." In general, the estimates seemed more a mirror of the perceiver—his stereotypes or his self-projections—than

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of the perceived. As Rabinowitz has stated, "apparently, F-scale scores judged on the basis of a brief interaction reflect the assumptions of the judge, not the objective characteristics of the *S* judged."

Aside from the usual barbs thrust at paper-and-pencil personality measures, the F scale has been criticized on grounds that it (*a*) scores all affirmative responses as indicative of authoritarianism despite evidences that many people are habitually "yeasayers" or "naysayers" (1, 2) and (*b*) invalidly equates authoritarianism with right-wing extremism; thus failing to tap antidemocratic attitudes among adherents to the political center and left (8, 10). Because all of the studies on authoritarianism and social perceptiveness employed the F scale, it is conceivable that the findings reflect the shortcomings of the F scale. It is possible, for example, that the stereotypes apparently manifested by the authoritarians and nonauthoritarians in the studies cited would not have differed so markedly had there been used a scale that discouraged response patterning.

With a questionnaire devised to correct for weaknesses in the F scale, this study further explores the relationships between degrees of authoritarianism among predictors and accuracy at estimating its presence in objects of prediction. Besides furnishing additional evidence on questions posed by the other studies, the research sought to determine how the sample as a whole would perform—given the minimal information with which it was presented. Unlike previous studies, this one focused on more typical college students, most of whose scores fall within a middle range (14). It did not restrict the samples of predictors or objects of prediction to those who scored at the extremes of the scale.

B. Procedure

During the first week of the summer session at Temple University in 1963, all students taking public speaking completed a 30-item measure of authoritarianism developed by Haiman (5). The students in four of the sections were asked, shortly thereafter, to predict (on the basis of minimal cues) how five other students had filled out the same scale. Those judges were eliminated who recognized the names or voices of one or more stimulus persons or who failed to respond to all of the scale items. A total of 58 judges remained in the sample, for whom self-scores and prediction scores were determined; also, the magnitude of each judge's error of estimation ("deviation score") was computed by subtracting (with sign being ignored) a stimulus-person's self-score from the prediction score attributed to him. The three sets of scores

served as the basic data from which statistical comparisons were ultimately derived.

As part of the routine class activity in a fifth public-speaking section, the students presented taped speeches describing themselves. Running from 15 to 30 seconds in length, the speeches covered such fundamentals as name, age, marital status, home town, and college major, as well as one or two statements to indicate in what ways each student thought himself unique. Vocal intelligibility was the sole criterion in choosing the five students whose recordings constituted the stimulus information subsequently made available to the judges. Neither the students' self-scores nor the bearing of their comments on authoritarianism were factors in stimulus-person selection. The content of speech samples was deliberately chosen at random in such manner as to be most representative of that which judges customarily encounter when forming first impressions.

Haiman's scale was described to the students as a survey of political and social attitudes. Assurance was given that they were not being tested or graded and that their responses would be treated confidentially. After completing the scale to describe themselves, the judges heard the recordings, one at a time, in varied order. Following each stimulus-person presentation, they were instructed to respond to the questionnaire "as if you were that student," indicating "how you think he would answer each item." For each scale statement, students could register strong agreement, slight agreement, slight disagreement, or strong disagreement.[2] A manifestation of extreme authoritarianism was weighted "1"; moderate authoritarianism, "2"; moderate nonauthoritarianism, "3"; and extreme nonauthoritarianism, "4." Weightings of responses to the 30 items were totalled to obtain scale scores. High scores denoted nonauthoritarian beliefs; therefore, the lowest score of 30 on Haiman's scale is akin to the highest F-scale score.

The content of Haiman's scale has been described in detail elsewhere (5). In brief, it consists of items that, on successive test drafts, repeatedly correlated well with the California F scale and with Rokeach's Dogmatism scale. From the two foregoing scales, 20 items were taken, either verbatim or in slightly revised form. The remaining 10 items (including a high proportion of the most discriminating) tap attitudes dealing with political and social affairs, the functions of group-discussion leaders, and the ethics of persuasion.

[2] Haiman used six response alternatives. Four were used in this study because, in estimating the responses of others, the subjects could only be expected to render gross judgments.

To counteract "yeasaying" and "naysaying" and to encourage greater attention to item content, the statements in the questionnaire are so phrased that the respondent must assent to half and disagree with the other half in order to obtain a "perfect" score. Parts of Rokeach's scale were included to measure "center" and "left" authoritarianism. Test-retest reliability of the scale was found to be .75 ($N = 229$) and its correlation with observer ratings of peer performance over an extended period is .23 ($N = 223$, $p < .01$).

C. Results

Nonauthoritarians were *not* found to excel authoritarians at estimating degrees of authoritarianism in others. The magnitude of the deviation scores (prediction errors) rose concomitantly with increases in authoritarianism, but the obtained correlation of —.10 is not significant (see Table 1). The

TABLE 1
COMPARISONS OF JUDGES' SELF-SCORES, PREDICTION SCORES AND DEVIATION SCORES ($N = 58$)

Variables related	r	p
Self-scores and deviation scores (Nonauthoritarian attitudes and prediction errors)	—.10	ns
Self-scores and mean prediction scores	.30	$< .05$
Mean prediction scores and deviation scores	—.80	$< .01$
Prediction scores for highest-scoring and lowest-scoring stimulus persons	.54	$< .01$

sample as a whole did not seem capable of rendering accurate judgments, given the limited information available to them for first impressions. Average deviation scores departed 11.8 points from the scores elicited by stimulus persons on Haiman's scale. Furthermore, the judges did not differentiate between stimulus persons in their estimates. Whereas stimulus-person self-scores varied from a low of 74 to a high of 97, estimates by judges hovered near the midpoint of the scale, a spread of but 2.2 points separating their mean predictions (see Table 2). Assessments by any one judge tended to be consistently high or low, independent of the stimulus person judged. A correlation of the judges' estimates for the highest-scoring and lowest-scoring stimulus persons revealed an r of .54, significant beyond the .01 level (see Table 1).

If both authoritarians and nonauthoritarians erred in their assessments, this does not mean that their prediction patterns were identical. Authoritarians

TABLE 2
COMPARISON OF JUDGES' MEAN PREDICTION SCORES WITH SELF-SCORES OBTAINED BY STIMULUS PERSONS

Subject	Stimulus person's self-score	Mean prediction score
1	74	75.85
2	81	75.48
3	83	76.19
4	90	77.64
5	97	76.43
Mean	85.0	76.32

tended to assign lower estimates than those scoring high on Haiman's scale. The obtained Pearson r between judges' self-scores and mean prediction scores is .30, significant at the .05 level (see Table 1).

Almost all judges were ungenerous in their assessments. As a group, they judged others to be more authoritarian than themselves, even though their own self-scores were still lower than the self-scores of the stimulus persons. A critical ratio of the difference between judges' self-score means and prediction means is significant at the .01 level (see Table 3).

TABLE 3
DIFFERENCE BETWEEN JUDGES' MEAN SELF-SCORE AND MEAN PREDICTION SCORE

Self-scores		Prediction scores		
Mean	*SD*	Mean	*SD*	*z*
80.26	8.24	76.32	5.87	2.60*

* $p < .05$ (critical ratio).

If there could be isolated a segment of the sample whose estimates were least erroneous, it would be those who assigned high estimates to others. The Pearson r of $-.80$ between deviation scores and mean predictions indicates that those whose assessments were highest were also most accurate (see Table 1).

D. DISCUSSION

Despite the utilization of a different scale and of a more typical cross-section of student judges and stimulus persons, the results of this study consistently confirm findings reported elsewhere. In this investigation, as in past investigations, (*a*) authoritarianism was found to be unrelated to accuracy at estimating its presence in others; (*b*) nonauthoritarians tended to be more generous in their estimates than authoritarians, although the assessments of both groups were significantly lower than either the self-scores of the judges or the stimulus persons; (*c*) neither group seemed capable of discerning social

differences based on minimal cues; (*d*) estimates were not nearly as differentiated as the self-scores of the stimulus persons—the judges apparently maintaining inflexible stereotypes that more closely resembled their own scale responses than those of the predictees.

One is tempted to reject the hypothesis, suggested by theory, that nonauthoritarians can better assess degrees of authoritarianism in others; but such a conclusion would be both too all-embracing and too premature. However contrived his experimental procedure, Lipetz did find evidence in support of the hypothesis under conditions wherein subjects are given sufficient quantities of relevant information. Faced with a much more difficult task (albeit, more realistic) in the remaining studies, and especially in this one than in earlier studies, the subjects appeared ill equipped to estimate accurately. But, even here, the results may be a function of the design or of the measuring instrument, rather than of the student. Undoubtedly, many judges found themselves bored and fatigued by the task of completing the scale several times. Their apathy may have resulted in random error that would have nullified real differences between other subjects scoring high and low on the scale. Moreover, neither the F scale nor, presumably, the Haiman scale is "cheat-proof" (3, 13). It may be that some subjects who were labelled as nonauthoritarian in these studies simply disregarded the admonitions to be honest, thus confounding the results.

As for the finding that nonauthoritarians assigned higher estimates than authoritarians, it is plausible that the former generally have a rosier stereotype of their peers. The fact that estimates were undifferentiated further supports the hypothesis, substantiated by Rabinowitz, that the findings "arise from a difference in the beliefs held by authoritarians and nonauthoritarians about the F-scale (or Haiman scale) responses of an average college student."

E. Summary

After completing a scale measuring authoritarianism, 58 judges were instructed to estimate responses to that scale of five stimulus persons whose taped, self-descriptive speeches constituted the information presented to the judges for the formation of first impressions.

Although a different instrument and more typical judges and stimulus persons were utilized, findings consistently resembled those of previous studies.

1. No relationship was found between authoritarianism and capacity or incapacity to estimate its presence in others.

2. Mean estimates of authoritarianism in others were found to be significantly associated with the judges' self-scores.

3. The sample as a whole was generally inaccurate and ungenerous in its estimates. Assessments of even the highest and lowest stimulus persons were undifferentiated, suggesting that the sample indiscriminately applied stereotypes toward their peers.

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COMPETITION AND NONCOMPETITION IN RELATIONSHIP TO SATISFACTION AND FEELINGS TOWARD OWN-GROUP AND NONGROUP MEMBERS*

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A. INTRODUCTION

The purpose of this study is to examine groups working in competition and noncompetition situations and to observe the effects of these conditions on the satisfaction of the group members and their feelings toward own-group and nongroup members.

An often-quoted study dealing with cooperation and competition is that by Deutsch (1). In his study, Deutsch was interested in (*a*) the productivity of the groups and (*b*) the type of interpersonal relations and morale that developed among the group members. In a study by Hammond and Goldman (2), which dealt mainly with the productivity factor, it was found that the competition-cooperation variable, as reported by Deutsch, is not the essential component affecting group performance; but that working in concert with others on a goal rather than as an individual is the more-important element. The current study will examine again the cooperation-competition variable, attempting to clarify and extend Deutsch's findings, but, in this case, working with variables dealing with satisfaction and with the acceptance of others within and outside of one's own group.

Deutsch established two types of group situations: a "competitive" one and a "cooperative" one. In the "competitive" situation, a subject (*S*) was told that his performance would be evaluated against the performance of other *S*s within his group. *S* was induced to view the other members within his group as competitors for mutually exclusive rewards. These *S*s were generally less satisfied and, as a group, more poorly performing than were the *S*s working in the "cooperative" situation and were believed by Deutsch to have been adversely influenced by the competitive aspect of their group situation. In Deutsch's "cooperative" treatment, all *S*s within a given group worked for a similar and a shared reward. Not only would *S* receive a reward, but he would be working with others for a common goal and would have

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the added incentive of seeing other members with whom he has worked or helped also receive rewards. Thus, the question raised is whether the difference between behavior in the "competitive" and "cooperative" treatments is due to the "competitive" factor or to the working-for-shared-rewards aspect.

In the "cooperative" situation, in addition to all members in a given group working for a common goal, all the members of the group would also share similarly in receiving or in not receiving the reward, according to the level of the performance of the group. However, Deutsch had a further stipulation that groups would compete with one another. If a given group reached its goal, it could have done so by performing better than the other groups; and the remaining groups thereby were prevented from reaching their goals. This "cooperative" treatment in this respect is similar to the "competitive" treatment in that the "cooperative" treatment involves *intergroup* competition. Deutsch attributed the greater friendliness and better acceptance of other group members in this treatment to its cooperative aspects, de-emphasizing the fact that the groups were competing with each other. If the sharing of common goals and rewards is the important and sole consideration, then why include the competitive factor? One should note that Deutsch employed no instrument measuring the feelings toward nongroup members. What would occur if the competitive variable were eliminated? The answer to this question has important implications for intergroup rivalry and tension.

To clarify the issues raised, four treatments will be employed.[1] The first treatment will be similar to Deutsch's "cooperation" situation, but will be called group competition because, as explained, these groups compete against other groups. The second treatment will duplicate Deutsch's "competitive" situation. It will be called individual competition. In this treatment, *S*s within the same group compete for mutually exclusive goals. If a given *S* in the group attains his goal, this accomplishment prevents other members of the group from reaching their goals. The third treatment is designed to promote intragroup cooperation without requiring intergroup competition. All members of the group are similarly rewarded, but rewards are based on the performance of each group independently of the performance of the other groups. One group doing well does not affect the ability of other groups to reach their goals, as was the case in Deutsch's study. This treatment will be called the group-merit treatment. By comparing the group-merit treatment and the group-competition treatments with each other, it will be possible to see the

[1] These four treatments are similar to those in Hammond and Goldman's study (2), that study being mainly concerned with group performance.

results, positive or negative, that occur from having or not having intergroup competition. The fourth treatment has *S*s in the same group working for individual rewards (as was the case in Deutsch's "competitive" treatment), but with the important change that the group members do not vie for mutually exclusive goals. Instead, each *S* is individually evaluated independently of the performance of the other group members—each *S* being rewarded on the basis of his individual contribution. This treatment is called the individual-merit treatment. By comparing the individual-merit treatment and the individual-competition treatment with each other, it will be possible to examine the effect, if any, that occurs because of competition when *S*s work for individual goals.

By adding these two treatments and retaining the two treatments that Deutsch used, we shall find it possible to see if it is indeed the competition factor that is responsible for the results Deutsch reported. By comparing the two treatments in which *S*s work for individual independent rewards with the two treatments in which all *S*s in the same group are similarly rewarded, we shall find it possible to determine whether or not working alone for independent rewards is the essential factor responsible for the results.

Comparisons can also be made between the group-competition and the group-merit treatments to examine the effects of intergroup competition. Does one need to pit one group against another group to produce strong satisfaction and high morale within a given group? If one does have groups competing against each other, how will this fact affect the feeling toward *S*s who are not members of the same group?

The current study was designed to examine and extend the understanding of competition and cooperation and the sharing or the nonsharing of the same rewards within a group.

B. Method

1. *Subjects*

*S*s were recruited from three general-psychology classes by being told they would have opportunity to receive credit toward their final course grade for participation. From each class, four groups of five *S*s each were formed. The four groups from a given class were randomly assigned to one of the four treatments, every class having a group in each one of the four treatments. Because three classes were used, each of the four treatments had three groups, making a total of 12 groups. In all, 60 students participated. Each group met for one hour a week for four weeks to discuss human-relations problems.

Insofar as the limitations of the students' schedules would allow, *S*s in the groups were balanced on a sociometric scale and on the F scale. The sociometric balancing was accomplished by asking *S*s to list in order of preference those other members of the class whom they would want to be in their group. Scores were assigned to each choice on the basis of five points for a first choice, four points for a second choice, etc., to one point for a fifth choice and every choice thereafter. Then every *S* was given a score based on the rank and the number of times he was chosen. Groups were then balanced on this basis and on the basis of the number of points of choices within the group. The four groups that met the first semester were further balanced on grades on their first examination, while the eight groups that met the second semester were balanced on the Wonderlic Personnel Test, Form A (timed).

2. *Inducing the Independent Variables*

The following set of instructions was read to all groups:

> We are interested in finding out to what extent group discussions of psychological problems foster greater insight into these problems. We want to find out if the increased understanding obtained by individuals in these sessions would be sufficient to make these sessions an integral part of the general-psychology course. We will be comparing the final grades that you make with the grades made by students who are not participating in these groups to see the extent to which your grades improve, if any.
>
> Since absences will detract from the adequate performance, regular attendance will be expected. We will meet at this hour for an additional three weeks, or four sessions in all.
>
> You will be presented with a problem that is relevant to your study of psychology and will be asked to discuss it with a view of how to resolve it. You will be allowed 30 minutes to discuss the problems. Then you will be allowed 15 minutes to write up your recommendations in the form of a single written report. You are to decide upon a different person to do the writing each week. This report will represent the contributions of the group as a whole.[2]
>
> Please do not discuss what you do here with other students, as this could affect the performance of the other groups.

To the best of the experimenter's knowledge, this request was honored. No information appeared to leak out to the groups in the different treatments or to the groups taking part the following semester.

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[2] The person writing the report was arbitrarily selected by the experimenter in alphabetical order according to the student's last name. At the end of the group discussion the experimenter asked, "Well, whom would you like to write up your recommendations?" At that point, there was a slight pause; so the experimenter pointed to a student and said, "Why don't *you* do it this week?" Because the groups met for four sessions, four different students were assigned to write a report for each group.

In addition to the instructions just quoted there were special instructions for each condition describing the way in which credit was to be allotted.

The instructions read to the groups in the group-competition treatment were as follows:

> You are going to receive some credit for the level of work that you are doing here. The credit will depend on the total participation of all group members in the discussion of the problems which will be given and the solutions of these problems in your written reports. All members of this group will receive the same amount of credit. This will be determined by comparing the performance of this group with the performance of three other groups participating in the program. Of the four groups, each member of the group judged best will receive 15 points; each member of the group judged second best will receive 10 points; each member of the group judged third best will receive five points; and the poorest of the groups will receive no points. These points will be added to your total score before your final general-psychology grade is determined. Thus, if this group's performance is judged best in comparison to the performance of the other three groups participating, each of you would receive 15 points which would be added on to your total score in general psychology.[3]

The instructions read to the groups in the group-merit treatment were as follows:

> You are going to receive some credit for the level of work that you are doing here. The credit will depend on the total participation of all group members in the discussion of the problems which will be given and the solutions of these problems in your written reports. All members of this group will receive the same amount of credit. The amount of points which you will receive varies from 15 points to zero points. If this group does a very superior job, each group member will receive 15 points; if this group does a superior job, each group member will receive 10 points; if this group does a fair job, each group member will receive five points; if this group does poorly, members will receive no points. These points will be added to your total score before your final general-psychology grade is determined. Thus, if this group's performance is very superior, each of you would receive 15 points which would be added to your total score in general psychology.

The instructions read to the groups in the individual-competition treatment were as follows:

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[3] A student's final grade in the general-psychology course is determined by adding the points made on three hour-long examinations to the points made on the final examination. Fifteen additional points made a difference of three letter grades on a one-hour examination; thus, a student who had obtained a "D" on a one-hour examination could obtain an "A" if 15 points were added to his examination score. Fifteen points added to the score on the final examination would raise the student's mark one letter grade at least.

> You are going to receive some credit for the level of work which you are doing here. The credit will depend on your individual contribution in the discussions of the problems which will be given and the individual contributions to the solution of these problems in the written reports. Each member of this group will receive different amounts of credit. This will be determined by comparing the performance of each member with the performance of the other members in this group. Of the five members here, the member of this group whose performance is judged best will receive 15 points; the member of this group whose performance is judged second best will receive 10 points; the member of this group whose performance is third best will receive five points; and the member of this group whose performance is judged poorest in comparison to (that of) other group members will receive no points. The number of points that each individual earns here will be added to his total score before his final general-psychology grade is determined. Thus, the individual whose performance is judged the best in comparison to the performance of the other members would receive 15 points which would be added to his total score in general psychology.

The instructions read to the groups in the individual-merit treatment were as follows:

> You are going to receive some credit for the level of work which you are doing here. The credit will depend on your individual contribution in the discussion of the problems which will be given and the individual contributions to the solutions of these problems in the written reports. Each member of this group will receive either the same or different amounts of credit as the other members depending on his individual contribution. The number of points which each of you can receive varies from 15 points to zero points. Those individuals here who do a very superior job will each receive 15 points; those individuals who do a superior job will each receive 10 points; those who do a fair job will each receive five points; and those individuals who perform poorly will each receive no points. The number of points that each individual earns here will be added on to his total score before his final general-psychology grade is determined. Thus, it would be possible for all of you here to receive 15 points if each of you performed in a very superior manner, and this would be added to each of your total scores in general psychology.

3. *Problems*

Four problem situations were devised, one for each of the four meetings of the groups. All groups received the problems in the same order. Problem 1 dealt with a new college teacher who was having difficulty in getting students to attend classes. Problem 2 involved a Jewish mother who could not get her 9-year-old son to attend Sunday School. Problem 3 concerned a bright

student who was failing a course that to him seemed very dull. Problem 4 consisted of what a fraternity could do if its members discovered that a new member who is well liked belongs to a religious group that is excluded by the national rules of the fraternity.

4. *Evaluating the Dependent Variable*

The effects induced by the four treatments were examined with the use of three instruments: (*a*) a subliminal questionnaire, (*b*) a sociometric test, and (*c*) written reports obtained from the experimental *S*s.

a. The subliminal questionnaire. At the end of each session, *S*s were asked to give an additional few minutes of time to help the experimenter with his master's thesis project, a study in subliminal perception. A questionnaire was distributed, and a stick-figure slide composed of four or more "persons" in ambiguous poses was flashed upon the wall at a .01-second exposure rate. The room was normally lighted, so that *S*s could see little more than a flash of light; thus they received only vague impressions of the pictures. The pictures consisted of stick figures in various positions (standing, seated, and holding hands) appearing to be engaged in various tasks. The authors felt that because of the rapid exposure of the picture and the general vagueness of the material *S*s would resort to their own emotional states in checking a questionnaire distributed to them. The questionnaire required *S* to check positive, neutral, or negative statements dealing with the behavior of the stick figures. The positive statements contained material such as "all the group members are productively engaged in a satisfying task," "they are all smiling," "they are all facing each other and working under happy circumstances." The negative statements contained material such as "the people are frowning," "they are not engaged in the same task," "they are facing in opposite directions." The neutral statements contained material such as "undecided" or "can't tell."

For each of the four group sessions, a different picture and a different questionnaire were used. *S*s were told that, while it was expected that they would not be able to "see" the projected picture, there was one that they would be allowed to view after the experiment was over. Further, they were assured that a possibility existed that they were "unconsciously" aware of what was in the picture, and that it was the experimenter's belief that this would influence the way they answered the questionnaire. All they had to do was to answer the items on "hunch" or "impulse." They were not requested to sign their names.

Question might arise as to whether or not the stick-figure slides influenced

the answers. This problem was not investigated; but, assuming such an influence, any differences between groups would have to be attributed to some other factor. These latter differences are of main interest in the present experiment.

b. Sociometric choices and the written report. When the four scheduled meetings for all groups were concluded, *E* went to two of the three classrooms (due to an error in scheduling, the third classroom did not participate in this part of the experiment)[4] and distributed additional sociometric questionnaires. *E* told the students that they had participated in an attempt to evaluate different methods of treating discussion groups, and that the psychology department intended to use these results as an aid in forming future discussion groups. Sincerity was requested in *S*s writing comments relevant to the experiences in the meetings—experiences *S*s thought might be helpful to the department, including statements of attitudes.

C. Results

The data available from the three instruments will be analyzed to see if the treatments induced created differences and (if differences exist) to examine the variables responsible for the differences.

1. *The Subliminal Questionnaire*

S received a score on the subliminal projective instrument by subtracting the number of negative items checked on the questionnaire from the positive items checked—each of the four group sessions being considered separately.

TABLE 1
PER CENT OF *S*s VIEWING THE SUBLIMINAL PICTURES POSITIVELY

Treatment	Session 1	2	3	4
Group-merit	43	50	79	71
Group-competition	57	67	54	54
Individual-merit	46	50	33	45
Individual-competition	53	35	33	53

The neutral items checked were counted neither positively nor negatively. For each of the four sessions, the median score for all *S*s was found, and the median chi square test was used to determine significance.

Table 1 presents the percentage of *S*s for each group session in each of the four treatments that fall above the median. The treatment having the highest

[4] Since each class had one group in each of the four treatments, the loss was equally shared by students in each of the four treatments.

percentage of *S*s above the median is the treatment under which *S*s viewed the picture most positively. At only one of the four sessions—the third—is the difference between treatments significant at the .05 level. *S*s in the group-merit treatment gave the greatest number of positive responses, followed by *S*s in the group-competition treatment, while *S*s in the individual-merit and the individual-competition treatments were tied for the least number of positive responses.

Significance at the .05 level was obtained using the median test when comparing the positive responses for the *S*s in the two group-reward treatments with the positive responses for the *S*s in the two individual-reward treatments. No significant differences appeared when the two cooperation treatments were compared with the two competition treatments.

2. *Self-Report Statements*

At the end of the group sessions, all *S*s were asked to write a brief report expressing their feelings about the meetings. These statements were given to three judges, who were instructed to score each statement "positive" or "negative" according to whether more-positive feeling or more-negative feeling was expressed. The following is an example of a statement judged negatively:

> I don't want to be overcritical, but I do not feel the outside groups were too beneficial. After coming to the first two, I dreaded coming to the third and fourth. Many times, the problems were so incomplete that we had trouble discussing them. If the groups had been formed for the purpose of helping us learn the information required of the course, I feel they would have been of some help, but as they were, I don't think they help me.

The following is an example of a statement judged positively:

> I enjoyed working with the group, and, although I'm not certain how much psychology I learned by being in the group, I'm sure it helped me some in my learning. I know I learned other things as well, getting to compare some of my opinions with other students' opinions.

No judge was aware of the conditions of the experiment, and they worked independently. Whenever there was a disagreement among the judges, the evaluation of the two judges who agreed was used. The average correlation between judges (using the phi coefficient) is .72.

Table 2 presents the number of *S*s in each of the four treatments whose statements were judged positively and negatively. Using a chi square test, the differences among treatments are significant at the .01 level. The group-competition treatment received the highest per cent of positively rated state-

ments (66 per cent), followed by the group-merit treatment (50 per cent), the individual-competition treatment (10 per cent), and the individual-merit treatment (zero per cent) respectively.

Significance at the .01 level was obtained using the chi square test when comparing the positive and negative statements in the two group-reward

TABLE 2
NUMBER OF *S*s IN EACH TREATMENT WHOSE STATEMENTS WERE JUDGED POSITIVE AND NEGATIVE

Treatment	Judgment	
	Positive	Negative
Group-merit	4	4
Group-competition	8	4
Individual-merit	0	4
Individual-competition	1	9

treatments with the statements in the two individual-reward treatments. No significant differences appeared when the two cooperation treatments were compared with the two competition treatments.

3. *Sociometric Instrument*

At the conclusion of the fourth experimental session, *E* again went to the classrooms from which *S*s had been recruited and asked the students to complete a second sociometric instrument by listing the names of individuals in their classes with whom they would want to work for possible future discussion groups. As was the case when the first sociometric instrument was scored to equate for choices across the four treatments, scores were given by assigning five points for the first choice, four points for the second choice, three points for the third, two for the fourth, and one point for all succeeding choices. Each *S* participating in the study received two scores: (*a*) the sum of the choices of individuals who were members of *S*'s experimental group and (*b*) the sum of choices of individuals who were not of *S*'s experimental group. Because the same two scores were computed for each *S* on the first sociometric instrument (i.e., the one completed before the experiment started), the differences between pre-experimental choices and postexperimental choices could be obtained for both own-group and nongroup members. Table 3 presents the results comparing the group-merit and the group-competition treatments on the increase in both own-group and nongroup members. With the Mann-Whitney *U* test, results significant at the .05 level were obtained for the nongroup choices, and nonsignificant results were obtained for the

TABLE 3
AVERAGE RANK DIFFERENCES BETWEEN POSTSOCIOECONOMIC AND PRESOCIOMETRIC CHOICES FOR OWN GROUP AND NONGROUP MEMBERS

Treatment	Nongroup members	Own-group members
Group-merit	21.31	19.37
Group-competitive	19.03	17.10

own-group choices. On both the own-group and nongroup choices, the group-merit treatment is above the group-competition treatment in selecting individuals with whom to participate in group sessions.

D. Discussion

One of the major questions examined in this study is whether or not the satisfaction of individuals working in groups is affected by the competition-cooperation variable or whether or not the more important variable is the sharing or the not sharing of similar rewards with members within the same work group. Because "satisfaction" is an elusive term, the authors decided to measure this factor in two ways, using a self-report and a projective technique.

The projective technique involved flashing a stick-figure picture on the wall at a fast speed and asking *S*s (at the end of each of the four group sessions) to report on whether they saw positive, neutral, or negative material. The authors believed that viewing the pictures positively or negatively would be affected by the satisfaction or dissatisfaction experienced in the group sessions. Significant differences among the treatments at the .05 level were found in the third session. If the relationship between experiencing satisfaction and viewing the stick-figure picture is correct, then evidence was obtained to support the assertion that working in a group and sharing similar common rewards with others is the essential factor—*not* the competition-cooperation variable. In the case of the two individual-reward treatments, the competition factor was of no import. In both of these treatments, the data show that the least amount of positive content for the stick figures was reported, both of these treatments having identical percentage scores.

The second measure used to examine satisfaction was a self-report obtained from all *S*s at the conclusion of the study. On this instrument, students were asked to write a short statement expressing their feelings about the group sessions. Differences among treatments were significant at the .01 level,

again supporting the assertion that greater satisfaction was experienced by *Ss* in the two treatments involving shared rewards as opposed to working for an individual reward. No evidence was found that the satisfaction variable was adversely affected by the competition-cooperation factor.

The results obtained in this study support the research reported by Deutsch (1) in that *Ss* involved in the "cooperation" treatment (our group-competition treatment) experience greater satisfaction than those in the "competition" treatment (our individual-competition treatment). But the results obtained in this study are in opposition to the work of Deutsch in that it was not the competition factor that induced the negative findings, but the working for individual, independent rewards. Deutsch, in setting up his two treatments, introduced both the competition and the working-alone factors. In the present study, there is evidence that the working-alone factor is responsible for the differences obtained in producing less satisfaction.

The second major area of this study concerned feelings toward ingroup and outgroup members. Deutsch found an increased acceptance of members within the same group in the "cooperation" treatment. But in his "cooperation" treatment, one group was pitted against other groups. One group receiving the highest reward automatically prevented other groups from doing so. Is it necessary to introduce this group-competition aspect to obtain greater acceptance among members in the same group? Deutsch de-emphasized this group-competition aspect of his study; he used no measure to obtain feelings toward nongroup members. In the present study, there is evidence of differences between pre-experiment choices and postexperiment choices for own-group as well as for nongroup members. The results show significantly greater acceptance, in terms of choosing individuals with whom to participate again in group sessions, for nongroup members by the group-merit-treatment *Ss* as compared to the choices of nongroup members by *Ss* in the group-competitive treatment. For choosing own-group members, the group-merit treatment is also higher than the group-competitive treatment, the differences not being significant, however. Thus, the data show that for *Ss* in the group-competition treatment there is a tendency to view other class members as possible rivals and to be less prone to accept them as group members. The results also show the needlessness of including intergroup competition in developing both mutual satisfaction or greater acceptance among members of a group.

There exists the tendency to include intergroup competition as part of a "cooperation" treatment, perhaps under the assumption that this induces cohesiveness or "good in-group feeling." Educators and other professional group workers sometimes include intergroup rivalry in their applied "co-

operation systems." The present study points to the possibility that this rivalry may not only be unnecessary, but may do social harm through the intergroup tensions that it arouses.

E. Summary

One purpose of this study was to evaluate the relative satisfaction of small-discussion-group members under four conditions of reward: (*a*) rewards given individually on a noncompetitive basis (individual merit), (*b*) rewards given equally among a group on a noncompetitive basis (group merit), (*c*) rewards given individually on a competitive basis (individual competition), and (*d*) rewards given equally among a group on a competitive basis (group competition). A second purpose of the study was to compare the group-merit and group-competition treatments with respect to the acceptance or the rejection of own-group and nongroup members.

Significant differences were found on the two measures used to examine satisfaction, showing that greater satisfaction is experienced when individuals share similarly in the rewards for mutual contributions than when given rewards independently for individual contributions. The competition variable does *not* appear to affect the results. With respect to acceptance or rejection, the group-merit treatment as compared with the group-competition treatment produced greater acceptance of own-group as well as of nongroup members.

Our results, based on the study of college students working in small face-to-face discussion groups, emphasize the advantage of having group members share rewards while making mutual contributions on a noncompetitive basis, competing neither against each other nor against other groups. It was suggested that intergroup rivalry might not only be unnecessary in producing "good in-group feelings" but that it might do social harm.

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INTERPERSONAL CONFLICTS IN PERSONS OF HIGH SELF-CONCEPT AND LOW SELF-CONCEPT*

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A. INTRODUCTION

The aim of the authors in the present study was to investigate the influence of interpersonal conflicts on persons of high self-concept and low self-concept. Bramel's recent work (2, 3), based on Festinger's 1957 concept of cognitive dissonance, seems to indicate that high self-esteem individuals experience more disruption than low self-esteem individuals when confronted with information contrary to their self-concepts. Bramel's studies dealt with the defensive projection of homosexuality. Experimentally, he was able to induce subjects into thinking that they had homosexual tendencies, and he found that projection was greater among subjects of high self-esteem as compared with subjects of low self-esteem. One could conclude from these studies that high self-concept acts as a force that can lead to interpersonal difficulties.

Bramel's data run counter to the traditional view that implies that the level of self-esteem is related positively to the stability and the success of interpersonal liaisons. The position is paradigmatically stated by Erich Fromm (6), who feels that before an individual can love and accept another person an individual must first love and accept himself. Stock (11) analyzed statements gathered from psychotherapy cases and reported a positive relationship between the way clients feel about themselves and about other people. The generally accepted position concerning the positive aspects of high self-concept assumes that high self-concept individuals are able to accept and have positive feelings toward others and to tolerate human weaknesses and foibles.

Because the implications of Bramel's studies are at variance with the accepted view concerning the role of high self-concept in maintaining interpersonal stability, the authors decided to evaluate directly the reactions to interpersonal conflicts of high self-concept and low self-concept individuals. If persons of high self-concept react more than do people of low self-concept to interpersonal conflicts in a manner such as to disrupt interpersonal rela-

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tionships, then Bramel's cognitive-dissonance findings would be substantiated. Reverse findings would support the traditional view.

B. Method

The procedure used involved the identification of high self-concept and low self-concept subjects and the evaluation of their reactions when exposed to interpersonal conflicts.

1. *Self-Concept*

Self-concept was measured by the use of Column I of the Bills Inventory of Adjustment and Values (1). Wylie's (1961) survey of self-concept measures (12) indicated that the instrument has more information about norms, reliability, and validity than any other self-concept measuring scale. A six-weeks test-retest reliability of .90 was also reported.

The Bills Inventory is a 49-adjective checklist in which subjects use the adjectives to complete the sentence "I am a (an) _____ person" and indicate on a five-point rating scale to what extent the statement applies to them. For scoring purposes, the values of the negative-adjective trait ratings are reversed and their scores are added to the positive-adjective trait ratings to yield each subject's self-concept score. High scores are presumed to be indicative of high self-evaluations.

2. *Subjects*

The Bills Inventory was given to 390 students enrolled in the introductory-psychology course at the University of North Dakota in the spring semester of the 1962-1963 academic year. The 64 subjects were the 16 males and 16 females who scored highest and the 16 males and 16 females who scored lowest on the Bills Inventory.

3. *Interpersonal Conflict*

A method developed from Heider's hypotheses concerning balanced and imbalanced states in interpersonal dyads (7) was used to evaluate the reactions of the high self-esteem subjects and low self-esteem subjects, when faced with interpersonal discord. Heider speculated that if one member of a dyad (P) likes the other member (O), then a state of balance or harmony reigns between them. But if O does something that does not meet with P's approval, an imbalance is introduced into the relationship. Heider described several methods that would restore the balanced state. One of the strategies available to P is the disavowal of O (i.e., a change from the original positive

regard for O to a negative attitude). This maneuver formed the basis of the method used to study the dissonance-arousing effects of interpersonal disharmony because it is the only strategy that Heider described as being capable of leading to discord and the eventual cessation of the relationship.

A series of 10 hypothetical interpersonal-disruption situations was constructed, and each attempted to place the subject in a position involving him in an interpersonal conflict. Each of the subjects was given a booklet containing the 10 situations. Five of the situations indicated (by a printed mark on a friendship scale) that an imaginary person was a good friend of the subject (i.e., had a friendly initial attitude direction). The remaining five situations indicated that the subject was on unfriendly terms with the imaginary person. This procedure was followed in order to test the cognitive-dissonance proposition that high self-esteem subjects would shift their attitudes from initially unfriendly directions to friendly directions more than would low self-esteem subjects. In each of the situations, the authors introduced disruptive material designed to cause the subjects to change their attitude towards the imaginary person. Each of the situations followed the same general format, except for the phrases that involved the initial attitude and the nature of the disruptive material. The format of one of the situations is as follows:

Situation 1. You are a good friend of X. An indication of the degree of friendship that you hold for him is shown by the marker on the scale below.

Friendship Scale

.	.	.	.	.	V	.
Very	Quite	Mildly	Neutral	Mildly	Quite	Very
----- Unfriendly -----				------ Friendly ------		

One day you hear your friend saying things to your girl friend (or boyfriend) which you don't like. You are upset. Would you now rate the degree of friendship you hold for him on the friendship scale below. Please place a mark on the scale below which seems closest to your feelings about him now. You may place your checkmark anywhere along the scale.

Friendship Scale

.	.	.	.	.	.	.
Very	Quite	Mildly	Neutral	Mildly	Quite	Very
----- Unfriendly -----				------ Friendly ------		

The content of the disrupting information for the four remaining situations in which a friendly relationship was initially established was as follows:

Situation 2. One day you find that your friend has been telling lies about you to other people.

Situation 3. One day you hear your friend make several remarks about your mother which you strongly dislike.

Situation 4. One day you see your friend take candy away from your little brother.

Situation 5. One day you see your friend cheating on an examination.

For each of the five situations in which an unfriendly relationship was initially indicated, the preface read:

> You are on unfriendly terms with X. An indication of the degree of unfriendliness that you hold for him is shown by the marker on the scale below.

The marker was placed in exactly the opposite part of the scale as was used for the initial friendly-attitude-direction situations. The disrupting-information statements were as follows:

Situation 1. One day you see X helping your mother, who has fallen, to her feet.

Situation 2. One day you overhear X telling one of your instructors that you are an excellent student.

Situation 3. One day you read in the newspaper that X volunteered to donate blood to a dying man.

Situation 4. One day X stops his car to help you fix a flat tire.

Situation 5. One day you see X rescuing a child from the path of an oncoming car.

The subjects were told to consider the person in each situation as being a different individual, and the order of presentation of the direction of the initial attitude was alternated to control for the effects of cumulative feelings toward the imaginary person.

The booklets were scored by measuring, with a millimeter scale, the differences between the preprinted standard mark on the first scale and the rating given by the subject on the second scale on each of the situations. The difference in millimeters represented the change of attitude score for that situation. The shifts in attitude scores were summed for each self-concept level and sex-difference group in the friendly and unfriendly initial-attitude directions, and the mean shift in attitude score for each group in each direction was calculated.

C. Results

The results indicate that high self-concept subjects, when confronted with disruptive information about the other member of a dyad, changed their attitude toward that person to a significantly greater extent than the low self-concept subjects. It was also found that the female subjects tended to

shift significantly more than the males, and that the initial attitude had no significant influence on the amounts of shift made by the subjects.

The ranges, means, and standard deviations earned by the male and female high self-concept and low self-concept subjects on Column I of the Bills Inventory of Adjustment and Values are presented in Table 1. The self-

TABLE 1
RANGES, MEAN SCORES, AND STANDARD DEVIATIONS OF SCORES ON COLUMN I OF BILLS INVENTORY OF ADJUSTMENT AND VALUES

Type of subject and sex	Range	Mean	*SD*
High self-concept subjects			
Male	208-226	214.93	4.92
Female	214-235	220.56	5.90
Low self-concept subjects			
Male	131-169	157.68	11.82
Female	143-169	157.56	9.39

concept scores of the high males and females were statistically compared with a *t* test in order to evaluate the possible presence of sex differences. A *t* of 2.93 was found, which (for 30 degrees of freedom) is significant at the .01 level of confidence. The same procedure was followed for the low self-concept male and low self-concept female subjects. The resultant *t* of .03 is not significant at the .10 level of confidence. It appeared that the self-concept scores of the females in the 390-subject pool extended further along the upper range of the self-esteem distribution than did the male scores.

The mean shift in attitude scores, and the accompanying standard deviations made by (*a*) high self-concept and low self-concept subjects, (*b*) male and female subjects, and by (*c*) subjects on the friendly and unfriendly initial-attitude directions on the 10 interpersonal-disruption situations is presented in Table 2. Ignoring sex differences and the direction of initial attitude, high self-concept subjects shifted more than low self-concept subjects (66.36 *vs.* 59.81). Female subjects, regardless of self-concept level and direction of initial attitude, changed their attitudes more (66.68) than the male subjects (59.48). There also appeared to be more shift in the unfriendly initial-attitude direction (65.51) than in the opposite direction (60.64) when sex difference and self-concept level were disregarded.

Since the female subjects had earned significantly higher self-concept scores on the Bills Inventory than the males, the effect of sex difference was evaluated (along with the self-concept level, and initial-attitude direction) in an analysis of variance of the Type III mixed design described by

TABLE 2
MEAN SHIFT IN ATTITUDE SCORES ON 10 INTERPERSONAL-DISRUPTION SITUATIONS

Subjects	Mean	*SD*
Self-concept		
High	66.36	30.67
Low	59.81	32.11
Sex		
Male	59.48	29.97
Female	66.68	32.72
Attitude change		
From a friendly direction to an unfriendly direction	60.64	33.50
From an unfriendly direction to a friendly direction	65.51	28.27

Lindquist (8). This design, besides allowing for the testing of the significance levels of the main effects of self-concept, sex difference, and direction of initial attitude, also allows for evaluating the significance level of the interaction effects. The summary of the analysis is given in Table 3. The *F* ratios

TABLE 3
ANALYSIS OF VARIANCE OF THE SHIFT IN ATTITUDE SCORES ON 10 INTERPERSONAL-DISRUPTION SITUATIONS

Source	*df*	Mean square	*F*
Between subjects	63	1,596.62	
Self-concept	1	34,258.92	83.26*
Sex	1	41,397.99	100.61*
Self-concept × Sex	1	242.80	.59
Error (b)	60	411.47	
Within subjects	64	22,770.97	
Direction	1	18,864.28	.79
Direction × Self-concept	1	241.77	.01
Direction × Sex	1	1,908.20	.08
Direction × Self-concept × Sex	1	3,586.63	.15
Error (w)	60	23,877.57	
Total	127		

* Significant at the .001 level of confidence.

for self-concept level and sex difference were found to be statistically significant. For the self-concept variable, an *F* ratio of 83.26 was found, which (for one and 60 degrees of freedom) is significant at the .001 level of confidence. The *F* ratio for sex difference was 100.61, which (for one and 60 degrees of freedom) was also found to be significant at the .001 level of confidence. No significant *F* ratio was found for the direction of initial attitude or any of the interaction effects.

D. Discussion

The evidence gathered indicates that the greatest amount of attitude shift was made by high self-esteem subjects and not by low self-esteem subjects; also, the initial attitude was found to have no influence on the amounts of shift made by the subjects. These findings support the position that high self-esteem disposes one to less interpersonal stability than does low self-esteem.

Female subjects, regardless of self-esteem level and direction of initial attitude, shifted more than male subjects. This finding is consonant with that of previous research that implies that females are more persuadable than males (4, 10). One must remember that the female subjects earned significantly higher self-esteem scores on the Bills Inventory than the males, and this fact may have led to greater feelings of disruption than those experienced by the males in this study.

It would seem that if self-esteem has been adequately evaluated and interpersonal conflicts effectively aroused, the results of this study lend support to Bramel's cognitive-dissonance view and cast doubt on the role traditionally assigned to high self-concept in interpersonal relationships. Before fully accepting these conclusions, it occurred to the authors that their results might have been due to the operation of a social-desirability type of response-style variable in the sense that either the low self-concept subject (with a strong need for social approval) was afraid to exhibit hostility toward the other dyad member because he felt it might not be socially approved by the experimenter or that the high self-concept subject (with a strong need for social approval) was shifting because he felt it was socially sanctioned. Fortunately, Marlowe-Crowne Social Desirability Scale Scores (5) were available for our subjects; so these were correlated with their attitude-shift scores. Pearson *r*'s of .03 and —.04 (not significant) were found for the male and female subjects, respectively, indicating that social desirability seems to have played a negligible role in determining the amount of attitude shift. These findings also cast doubt on the proposition that the interpersonal-conflict situations were so transparent that the subjects could see through the task and give the examiners what the subjects thought the examiners desired.

A question arises as to how high self-concepts and low self-concepts influence the stability of interpersonal relationships. The authors feel that the high self-regard person finds himself in the unenviable position of being defenseless before the derelictions of his friends and the virtues of his foes. It is not difficult to visualize the high self-esteem individual as feeling that he possesses

a highly delineated and meritorious value system. When a friend's transgressions challenge those values, the high self-esteem individual finds himself in a conflict from which the value system emerges victorious. This is a self-righteous type of response. The triumph of the value system is repeated when the high self-esteem person is confronted with the worthy deeds of people he does not like. In that case, the high self-esteem person may project his own value system onto the behavior of the other dyad member and interpret the other's motivations as being like his own.

The low self-concept person may also project his own negative values and judgments to the other dyad member who commits a "positive" act. Because of this, he can discount the act by transforming it from positive to negative; thus experiencing little or no conflict and, therefore, have little or no need to make attitudinal adjustments. When an initially liked person commits a "negative" act, the low self-concept person (because of his own low account of his judgmental abilities) may feel that what the dyad member did was really acceptable and all right. Fear of loss of friendship probably motivates these rationalizations. Because of this, the low self-concept person remains steadfast and loyal to his initial attitudes.

The behaviors shown by the subjects in this study cast some light on certain aspects of Korean-prisoner-of-war behavior, as reported by Mayer (9). Mayer reported that the enemy was successful in keeping thousands of American soldiers in custody with only a couple hundred guards because they had been able to disrupt cooperative interpersonal relationships by raising personal barriers between the men. Mayer further reported that part of the brain-washing procedures had to do with the soldiers making minor confessions, which were thought to be unimportant, but which served to drive a wedge between the men, psychologically isolating them and making concerted action impossible. It may have been that the soldiers were repelled by their buddies who admitted harmless (but negatively tinged) acts and feelings and attracted by the Chinese communists, who professed to be for such things as "justice," "equality," "fair play," etc.

It is interesting to note that the high self-regard person seemed to be able to praise as well as blame. Such behavior makes it difficult to maintain that high self-esteem has only a deleterious effect on interpersonal relations and brings into question the possible criticism that the high self-esteem scores may reflect a spuriously high or neurotic-defensive self-regard as opposed to "genuine" self-esteem. It is more feasible to suppose that the same ground rules apply to neurotic high self-esteem as to the nonneurotic variety, with one

of the differences being that the behavioral adjustments probably are more extensive and long lasting in the former group.

The authors do not mean to imply that the high self-esteem individual is labile in his friendships in the sense that he continually drops old friends or seeks out old adversaries. It is more logical to assume that he will move toward people who share his value system and act, feel, and think as he does. Such an assumption is not too unsound from the standpoint of the repeated small-group research findings that people gravitate toward others who share their interests. Such relationships are probably successful and stable because the chances of conflict are minimal.

A question arises as to why the traditional view is so prevalent and why the conflict-arousing role of high self-concept in interpersonal stability has been overlooked. This may be attributed to the mitigating effect of several circumstances that mask the role played by high self-concept. As has been mentioned before, similar shared interests probably place the high self-concept individual in friendships where the chances of interpersonal conflict arousal are small. In addition, it is not known how enduring are these attitudinal changes when they do occur. It may be that they revert quickly; thus, there would appear to be nearly continuous interpersonal stability.

Even more crucial is the fact that many individuals are able to use strategies that act as buffers toward experiencing the interpersonal conflict. Individuals may use rationalizations as buffer strategies (e.g., "he didn't mean it," "didn't know what he was doing," "had some ulterior motive," "he must have been out of his mind to do that," etc.). They may even reverse their value systems and conclude that the disliked act really wasn't bad or that the admirable act of the disliked person wasn't really too worthwhile, in order to avoid feelings of interpersonal conflict. These buffer strategies probably have to be exhausted or not allowed to operate (as was done in this study) before the interpersonal conflict is experienced. These strategies probably allow for continuity of attitude, leading to interpersonal stability. The traditional view is correct in the sense that there is, phenotypically, stability of interpersonal relationships among high self-concept individuals. But this may be due to the masking effects of social-group composition, possible quick reversion to original attitudes, and the utilization of buffer strategies. However, the conflict-arousing effect of high self-concept lurks behind this screen of defensive maneuvers ready to cause ruptures in the interpersonal fabric when the safeguards are exhausted.

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BODY IMAGE AND BODY DISSATISFACTION IN JAPANESE-AMERICANS*

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A. PROBLEM

In recent years there has been an increasing interest in the concept of body image. This term refers to the ideas and attitudes that an individual has concerning his own body. Investigations in this area have shown body image data to be significantly related to a wide range of psychological phenomena (11, 12).

Several investigators have been concerned with the relationship between the individual's body size and the satisfaction which he expresses toward his physical characteristics. Jourard and Secord (14) found that in a group of college males large size (height, shoulder, chest, biceps—but not weight) was related to positive feeling toward the particular part of the body. Extending their work to a group of female college students they found almost the opposite: small size (weight, waist, hips, thigh, calf, ankle, feet—but not bust) was related to body satisfaction (15).

Magnussen (17) replicated Jourard and Secord's work with male subjects and found similar results, except that in his study weight also was found to be positively correlated with body satisfaction. Calden, Lundy, and Schlafer (5) in a questionnaire study produced further evidence that males wished to be heavier and taller; while females desired to be smaller and lighter in all dimensions except bust.

Of particular interest to the present investigation is some work of Fisher and Cleveland (12), with data from Japanese-Americans in Chicago. Through special analysis of Rorschach protocols, Fisher and Cleveland hypothesized that differences in the projective body imagery of males and females were related to the comparatively greater acculturational difficulties of the male.

Meredith and Meredith (18) have called for acculturational research that takes into account biological factors as well as psychological and sociological factors. They point out that relatively little attention has been given to the interrelationship of "psyche" and "soma" in such research and note that

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the obvious physical differences between Caucasians and Japanese-Americans must play an important part in the personality development of the latter group.

The Japanese-American male is relatively small in a culture that values largeness in its males. The Japanese-American female is also relatively small, but the American culture places some value on petiteness in women. However, the matter is seemingly not so simple because American females have been found to be generally satisfied with their height; while a study of an earlier generation of Japanese-Americans showed that males and females alike reported shortness as a cause of inferiority feelings (20).

In the present investigation, an attempt was made to investigate the relationship between body image and body dissatisfaction in comparable groups of Japanese-American and Caucasian-American male and female subjects.

B. Method

The *S*s were drawn from the introductory-psychology course at the University of Hawaii, by means of an ethnic questionnaire on which each *S* indicated the ethnic status and birthplace of himself and of each of his parents and grandparents. The *S*s consisted of 87 third-generation Japanese-Americans (35 males, 52 females) and 53 Caucasian-Americans (29 males, 24 females). The mean ages of the four subgroups were 19.4, 18.4, 20.2, and 20.5 years respectively.

Each *S* completed a body-cathexis questionnaire devised by Jourard and Secord (14, 19) on which, using a five-point scale, he indicated his degree of satisfaction or dissatisfaction with 40 aspects of his body. He was also asked to estimate the sizes of various dimensions of his body and, in each case, to indicate what size would be ideal for him. For male subjects, these dimensions were height, weight, shoulder width, and girth of chest (relaxed and expanded), biceps (relaxed and expanded), waist, and hips. For female subjects the dimensions were height, weight, bust, waist, and hips. After completion of the instruments (and without prior indication), each subject was given an appointment and actual measurements were taken with scales, a stadimeter, and a tape measure.

C. Results

Because the body-cathexis questionnaire is scored in such a way that high values indicate dissatisfaction, these values will be called body dissatisfaction scores in the discussion that follows. Mean body-dissatisfaction scores for the several groups of subjects, differences between the means, and *t* tests appear

in Table 1. As may be seen, it is the Japanese-American female who expresses most dissatisfaction with her body; she is significantly more dissatisfied than the males of her ethnic group and her Caucasian-American sisters. Males of the two ethnic groups and male and female Caucasians do not differ significantly in body dissatisfaction.

TABLE 1
MEAN BODY-DISSATISFACTION SCORES

Sex	Ethnic group: Japanese-Americans	Ethnic group: Caucasian-Americans	Difference	*t*
Male	110.31	104.83	5.48	1.28
Female	117.56	107.63	9.93	2.31*
Difference	7.25	2.80		
t	2.27*	0.49		

* Significant at the .05 level.

Tables 2 and 3 show for male and female subjects respectively the data concerning the specific body dimensions. For the two ethnic groups and for each body dimension in turn, the means of the estimated measures are shown as well as the means of the measures that each subject considered ideal for himself, and the means of the actual measurements. (Although the mean differences between the ethnic groups are shown for all three of these, it did not seem fruitful for purposes of the present study to test their significance.) To determine the satisfaction of the groups with each of the several dimensions, the difference between the ideal means and the estimated means are also shown, together with the discrepancy between these mean differences for the two ethnic groups and a *t* test of the significance of the ethnic-group discrepancy. To evaluate the accuracy of the estimated measures in relation to the actual measures, the mean errors of estimate (computed without regard to sign) are shown, as well as the differences between them for the ethnic groups and a *t* test of the significance of the differences.

In the data for males, Table 2, one will note that the difference between the ideal mean and the estimated mean is uniformly positive for both ethnic groups for height, weight, shoulder width, chest girth relaxed, chest girth expanded, biceps relaxed, and biceps expanded, reflecting a general desire for males to be larger in these characteristics. This desire is significantly greater on the part of Japanese-Americans than Caucasian-Americans for height, although their mean-error estimate was significantly less. For biceps, both relaxed and expanded, the desire to be larger is also significantly greater for the Japanese-Americans than Caucasians. Both ethnic groups preferred to be

TABLE 2
MEANS, MEAN DIFFERENCES AND *t*'S FOR ESTIMATED, IDEAL AND MEASURED BODY DIMENSIONS FOR MALE SUBJECTS

Body dimension	Caucasian-Americans	Japanese-Americans	Difference	*t*
Height in inches				
Estimated	71.0	66.1	4.9	—
Ideal	72.5	68.9	3.6	—
Measured	70.5	66.0	4.5	—
I-E	1.5	2.8	—1.3	2.68**
E error	0.76	0.46	0.30	2.14*
Weight in pounds				
Estimated	162.2	136.9	25.3	—
Ideal	172.1	151.8	20.3	—
Measured	161.8	137.5	24.3	—
I-E	9.9	14.9	—5.0	1.19
E error	3.72	3.14	0.58	0.76
Shoulder width in inches				
Estimated	23.6	21.5	2.1	—
Ideal	25.2	23.9	1.3	—
Measured	19.6	19.7	—0.1	—
I-E	1.6	2.4	—0.8	1.78
E error	5.59	3.54	2.05	1.28
Chest girth—(relaxed) in inches				
Estimated	37.0	35.1	1.9	—
Ideal	38.8	37.5	1.3	—
Measured	37.2	34.7	2.5	—
I-E	1.8	2.4	—0.6	1.32
E error	2.00	1.77	0.23	0.55
Chest girth (expanded) in inches				
Estimated	39.9	37.4	2.5	—
Ideal	41.9	40.4	1.5	—
Measured	39.4	36.3	3.1	—
I-E	2.0	3.0	—1.0	1.94
E error	1.76	2.23	—0.47	1.07
Biceps girth (relaxed) in inches				
Estimated	12.0	10.5	1.5	—
Ideal	13.2	12.6	0.6	—
Measured	11.8	11.2	0.6	—
I-E	1.2	2.1	—0.9	3.10**
E error	2.14	1.46	0.68	1.58
Biceps girth (expanded) in inches				
Estimated	13.6	12.5	1.1	—
Ideal	15.1	15.0	0.1	—
Measured	13.2	12.5	0.7	—
I-E	1.5	2.5	—1.0	2.83**
E error	2.00	1.54	0.46	0.98
Waist girth in inches				
Estimated	31.4	29.2	2.2	—
Ideal	31.2	29.3	1.9	—
Measured	31.5	29.3	2.2	—
I-E	—0.2	0.1	—0.3	0.83
E error	1.59	0.94	0.65	1.76

* Significant at 5 per cent level.
** Significant at 1 per cent level.

TABLE 2 (*continued*)

Body dimension	Caucasian-Americans	Japanese-Americans	Difference	*t*
Hips girth in inches				
Estimated	36.4	34.1	2.3	—
Ideal	35.8	34.0	1.8	—
Measured	39.8	38.1	1.7	—
I-E	−0.6	−0.1	−0.5	0.91
E error	3.83	4.06	−0.23	0.39

TABLE 3
MEANS, MEAN DIFFERENCES AND *t*'S FOR ESTIMATED, IDEAL AND MEASURED BODY DIMENSIONS FOR FEMALE SUBJECTS

Body dimension	Caucasian-Americans	Japanese-Americans	Difference	*t*
Height in inches				
Estimated	64.9	61.8	3.1	—
Ideal	65.0	62.9	2.1	—
Measured	64.8	61.5	3.3	—
I-E	0.1	1.1	−1.0	3.36**
E error	0.38	0.40	−0.02	0.15
Weight in pounds				
Estimated	122.0	111.1	10.9	—
Ideal	117.2	107.8	9.4	—
Measured	122.6	113.4	9.2	—
I-E	−4.8	−3.3	−1.5	0.75
E error	3.75	3.85	−0.10	0.05
Bust girth in inches				
Estimated	34.8	33.0	1.8	—
Ideal	35.3	33.7	1.6	—
Measured	35.0	33.2	1.8	—
I-E	0.5	0.7	−0.2	0.94
E error	1.04	1.04	0	0
Waist girth in inches				
Estimated	24.8	24.5	0.3	—
Ideal	23.5	23.4	0.1	—
Measured	25.8	25.6	0.2	—
I-E	−1.3	−1.1	−0.2	0.45
E error	1.17	1.21	−0.04	0.15
Hips girth in inches				
Estimated	36.0	35.3	0.7	—
Ideal	34.8	34.5	0.3	—
Measured	37.6	36.8	0.8	—
I-E	−1.2	−0.8	−0.4	1.35
E error	1.71	1.69	0.02	0.04

** Significant at 1 per cent level.

smaller in hip girth, as shown by the negative signs. On waist girth, the findings are mixed, the Caucasian-Americans preferring to be slightly smaller; Japanese-Americans, slightly larger. Ethnic-group differences other than those in height and biceps fail to reach statistical significance.

In the data for females, Table 3, both ethnic groups preferred to be taller, larger in bust, and smaller in weight, waist girth, and hip girth (as shown by the signs of the differences between the ideal means and the estimated means). In the case of height, the desire to be taller is significantly greater on the part of the Japanese-Americans than the Caucasian-Americans. Other ethnic group differences are not significant.

D. Discussion

The results of the present study are generally consistent with those found by previous investigators. Caucasian and Japanese-American males alike wish to be larger in all of the dimensions that were under examination excepting hips and waist. Caucasian and Japanese-American females agree in their desire to be taller, smaller in hip and waist measurements, lighter in weight, and larger in bust.

Generally speaking, it is the Japanese-American females who show most dissatisfaction with their bodies. Their mean body-dissatisfaction score is significantly greater than that of the males of the same ethnic group and that of the Caucasian females. It is on the dimension of height that the two groups of females appear to differ most significantly. The Caucasian females as a group show only a slight discrepancy between estimated and ideal height, while the Japanese-American females (on the average) wish to be more than one inch taller.

It has been noted in several studies (1, 10) that Japanese-American women give evidence of high abasement. This group apparently are critical of themselves and express considerable feelings of inferiority. It is possible that this abasive patterning may have been operating in the present situation to elevate the general body-dissatisfaction scores of this group.

A number of investigators have observed that Japanese-American women appear to be acculturating more rapidly than the males of this ethnic group (2, 3, 6, 9, 10, 12, 16, 18). It has been hypothesized that females are more attracted to and more desirous of taking over American ways (9). Such propensities may invite invidious comparisons with their Caucasian sisters and make this group all the more unhappy about those aspects of their body image that are dissonant with their acculturational wishes.

Although the body-dissatisfaction score of the Japanese-American males is higher than that of the similar-sexed Caucasian group, the difference does not achieve statistical significance. However, in height and biceps the former group falls significantly shorter of its ideal than does the Caucasian group.

Probably more than any of the others, these dimensions symbolize masculinity in the American culture.

In the present investigation the subjects' errors of estimate (that is, the discrepancy between their actual and estimated measurements) would seem to be of considerable importance. This discrepancy might be considered one index of body-image distortion. The research literature suggests that such distortion—and specifically distortion in size—is more commonly found among neurotics and psychotics than among normals (4, 7, 8, 13).

There is little evidence that body size distortion is greater for one ethnic group than for the other. Despite their greater body dissatisfaction, Japanese-American females appear to be no less accurate than Caucasian females in estimating bodily dimensions. The two male groups also appeared to be equally accurate except on one dimension; in the estimation of height, Japanese-American males proved to be significantly more accurate than Caucasian males, in spite of their significantly greater dissatisfaction with this dimension.

E. Summary

This study investigated the relationship between body image and body dissatisfaction in Japanese-American and Caucasian-American college students. Each *S* completed a body-cathexis questionnaire, estimated the size of various body dimensions (in each case also indicating what he felt would be ideal for him), and had his actual measurements taken. Japanese-American females expressed significantly greater body dissatisfaction than the males of their ethnic group and than the Caucasian-American females; the two male groups and male and female Caucasians did not differ significantly in this regard. There was little difference between ethnic groups in the accuracy of their estimates.

Males of both ethnic groups wished to be taller, heavier, and larger in shoulders, chest, and biceps; Japanese-American males, however, showed a significantly greater desire than the Caucasian males to be taller and larger in biceps. Females of both groups preferred to be taller, larger in bust, and reduced in waist, weight, and hips; the desire to be taller, however, was significantly greater in the Japanese-American females.

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EXPERIENCE AS AN "INSTRUCTIONAL SET" IN NEGOTIATION*[1]

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A. INTRODUCTION

A wealth of research has demonstrated that a person's psychological set has an important influence in determining and shaping his behavior. In a typical experiment that manipulates set, *S*s are given verbal instructions that are capable of producing the proper attitude; thus, *S*s may be encouraged to work hard by being told that the experimental task will be used to evaluate them in some way, or *S*s may cooperate with each other because they are told by the experimenter to cooperate.

The use of instructions to alter set is an efficient laboratory technique. It should be noted, however, that the technique permits a limited, albeit valuable, range of findings. All findings are necessarily of the form: "given Attitude A, Behavior X is elicited in situations B_1, B_2, . . . B_n." In many instances, one is not interested in what happens when Attitude A is present but in what conditions must prevail in order to create Attitude A. When one considers problems in negotiation, it is one thing to study what happens in negotiation when people are cooperative and it is quite another thing to find out how to make people adopt a cooperative attitude (4, 5, 6, 10, 12).

In the present study, an attempt was made to provide *S*s with short-term experiences that would induce certain specific attitudes toward negotiation: e.g., a cooperative orientation. These "experiences" were not deemed to be training devices or techniques; so no attempt was made to teach *S*s how to cooperate. It was assumed that *S*s knew how to negotiate cooperatively. Further, the purpose of these experiences was *not* to provide a background in which the experimenter could give *S*s the explicit instructional set "Behave cooperatively in these negotiations," as Willis and Hale (13) did in their

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[1] This work was done while the senior author was at the Educational Testing Service.

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study dealing with the effect of "instructional orientation" on bargaining. Instead, three different experiences were used to provide *S*s with a "past history" of negotiation that, hopefully, would foster attitudes of competitiveness (in the first case), cooperativeness (in the second), or limited trust (in the third). The activity in which the groups had to interact involved a series of two-by-two game matrices[3] in which maximal payoffs (their pay for participating in the experiment) could be achieved only by cooperating.

B. Method

1. *Subjects*

Thirty-six two-man teams, each composed of two Princeton University undergraduates[4] served as subjects. Teammates were usually roommates or close friends, and one subject had answered a newspaper advertisement and arranged to bring a friend with him to the laboratory at a scheduled time.

2. *Experimental Design*

It has already been stated that there were three experimental conditions with respect to the type of past experience that was to produce the diverse attitudinal sets: the competitive, the cooperative, and the limited-trust conditions. There was an additional independent variable, however, dealing with the opportunity to earn extra bonus money for doing better than the other team in the play of the game matrices. Half the teams were placed in a bonus condition in which the team that won the most money during the experimental period would be rewarded with an extra $2.00. The remaining teams were placed in a nonbonus condition involving no mention of beating the other team and no bonus was given for such an outcome. These variables were used in a two-by-three factorial design, with six teams in each cell.

All *S*s were asked to return for a second session, which was a precise replication of the first session except that all the teams played under different experimental conditions. It was hoped that a second session would provide some clues showing how the attitudes and the negotiating techniques changed over time and provide an opportunity to study the differences in the perception of the negotiations by participants and outsiders using the observers who had been trained during the first session.

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[3] A two-by-two game matrix is a decision situation in which each player has two choices available to him on any trial. For each of the four possible outcomes, a specific payoff is assigned to the players. In the present situation, the payoffs to the two teams were usually unequal. See Luce and Raiffa (8) for discussions of relevant topics (e.g., "game," "uncertainty").

[4] Inadvertently, one graduate student was accepted as a member of one of the teams.

The laboratory session was divided into periods, with each period consisting of three phases:

1. Up to three minutes of prenegotiation discussion time for the partners. At this time the partners would decide what kind of strategy they wished to follow for the ensuing negotiation.

2. Up to five minutes of negotiation time. The major task was for the teams to decide which of two game matrices (to be described shortly) they

TABLE 1
RATING SCALES USED BY *S*s AND OBSERVERS

No.	Item
1.	Caught on to the experiment quickly.
2.	Knew how to analyze the problems.
3.	Planned how to conduct negotiations.
4.	Accomplished its objectives in negotiations.
5.	Gave information freely.
6.	Sometimes gave false information.
7.	Negotiated too naively.
8.	Negotiated too cautiously.
9.	Utilized threats or warnings.
10.	Pretended having "no choice."
11.	Appealed to principles of fair play.
12.	Was frankly "out to win."
13.	Tried to cooperate.
14.	Was willing to compromise.
15.	Made many commitments.
16.	Sometimes broke commitments.
17.	Played the problems cagily.
18.	Made blunders in playing.
19.	Made blunders in negotiating.
20.	Made satisfactory profits.

preferred to play. They could exchange information, make agreements, etc. At the end of five minutes, however, they had to choose one of the matrices or accept the holdout payoff.

3. Two and one-half minutes for five plays on whichever of two game matrices the teams had agreed upon. Failure to agree resulted in an automatic holdout payoff and omission of this phase of that period.

This sequence was done four times, the first two times with experiment-payoff matrices; the last two times, with the test matrices. The teams were credited with an initial capital of $4.00 ($2.00 per member) and told that this would be their take-home pay for the two-hour experiment, adjusted by whatever they won or lost in the payoffs during the play of the game. In addition, of course, the bonus-treatment teams were told that they could win an extra $2.00. At the end of the session the rating scales shown in Table 1

were completed by each of the *S*s and the four observers. The observers (three graduate students and a research assistant with graduate training) were divided into two pairs and each pair observed one team.

3. *The Game Stencils*

Four game stencils were used for each two-hour session: two experimental stencils, which were varied according to experimental design; and two test

	Matrix P			Matrix Q		
		A_1	A_2		A_1	A_2
Payoffs for A	B_1	30	5	B_1	15	-10
	B_2	1	-35	B_2	-10	15
Payoffs for B		A_1	A_2		A_1	A_2
	B_1	-25	0	B_1	-10	15
	B_2	5	35	B_2	15	-10
Joint Payoffs		A_1	A_2		A_1	A_2
	B_1	5	5	B_1	5	5
	B_2	6	0	B_2	5	5

FIGURE 1
EXAMPLES OF GAME MATRICES FOR THE COMPETITIVE CONDITION

stencils, which were the same for all pairs of teams. The distinction between experimental stencils and test stencils was made only for the experimenter's use—subjects were unaware of this distinction and correctly regarded each stencil as an opportunity to make or lose money. It was through the use of the experimental stencils that "experience" was manipulated. The test stencils were used to evaluate the effects of the varied experiences.

The placement of a stencil over the plugboard apparatus permitted only certain positions on the plugboard to be available to a team for the placement of their telephone jack. Insertion of the jack in a socket left exposed by the large holes in the stencil caused neon lights to light up on the other team's plugboard. Small holes in the stencil were located to reveal the neon lights for the sockets controlled by the other team.

	Matrix F		Matrix N	
	A_1	A_2	A_1	A_2
Payoffs for A				
B_1	-1	-20	5	0
B_2	3	-5	0	5
Payoffs for B				
B_1	-2	-15	0	5
B_2	3	-8	5	0
Joint Payoffs				
B_1	-3	-35	5	5
B_2	6	-13	5	5

FIGURE 2

EXAMPLES OF GAME MATRICES FOR THE COOPERATIVE CONDITION

When a team was ready to start negotiation, it would so indicate by inserting a jack in an appropriate socket. When the negotiation period was finished, each team indicated which of the two game matrices it had decided to play. Because each team knew only its own payoff, even an "obvious" choice took a little time. If the teams could not agree, each team was con-

sidered a "holdout" and was required to accept the holdout payoff printed on each stencil. In general, the holdout payoff was less than could be won by cooperating; and it was frequently different for the two teams.

If the teams succeeded in agreeing to play one of the game matrices, negotiation ceased, the plugboard lights were turned off, and five plays in

	Matrix M		Matrix T	
	A_1	A_2	A_1	A_2
Payoffs for A				
B_1	-20	5	21	-5
B_2	6	25	-5	20
Payoffs for B				
B_1	30	5	-5	20
B_2	10	-20	20	-5
Joint Payoffs				
B_1	10	10	16	15
B_2	16	5	15	15

FIGURE 3
EXAMPLES OF MATRICES FOR THE LIMITED TRUST CONDITION

the chosen matrix commenced. Each play consisted of 15 seconds for each of the teams to place their jack in one of the two holes available to them in Matrix R, then a five-second warning, followed by 10 seconds with the neon lights on, so that the teams could observe the result and record it on a payoff record sheet. The plugboard lights then went off, and the teams replaced their

jacks for the next play. The result of any play could be determined by a team through inspection of the lights on its plugboard.

Examples of the different types of payoff matrices are shown in Figures 1 to 4. The payoffs for each team are shown separately; the *S*s, as suggested, knew of only their own payoff. The cooperative matrices attempted to elim-

	Matrix D		Matrix S	
	A_1	A_2	A_1	A_2
Payoffs for A				
B_1	-30	5	10	100
B_2	0	35	-95	-5
Payoffs for B				
B_1	35	5	10	-95
B_2	0	-30	100	-5
Joint Payoffs				
B_1	5	10	20	5
B_2	0	5	5	-10

FIGURE 4
EXAMPLES OF TEST MATRICES

inate potential discord at almost every turn. The holdout payoffs were unattractive. This fact had the effect of forcing an agreement because, lacking agreement, each team would be penalized. In addition, there would be no advantage of a doublecross in the play. The most usual form of doublecrossing was for one team to promise to make a certain choice and then renege for

monetary gain. It was felt, on *a priori* grounds, that the threat of a doublecross was an important element in creating the proper group atmosphere. In the cooperative condition, *S*s were given every reason to trust each other and to get in the habit of working together simply because there was no advantage in doing something else. In every case, the mild competitive arrangement of each matrix could be worked out, if the teams were so inclined, to the mutual benefit of all. The serious obstacles to negotiation had been removed.

The competitive matrices differed on every count. There existed holdout threats. That is, it would be advantageous for one team to hold out while the other team was penalized for failing to find agreement. This situation provided the former with a competitive advantage in negotiation. There were also great advantages in doublecrossing the other team. It should be noted that the potential advantage of a doublecross arouses the threat of a doublecross. It was intended that this threat should generate a suspicion that would induce a competitive rather than a cooperative bargaining atmosphere. The competitive stencils, therefore, made it difficult to agree, introduced threatening situations, and supplied competitive advantages.

Although the limited-trust stencils had attributes of both the cooperative and competitive stencils, their salient feature was that they produced a situation in which an easy-money period was followed by a tight-money period. The shift in economic fortunes, it was thought, would induce caution.

The reader will notice that the test stencils shown in Figure 4 enable both teams to earn a fairly handsome payoff *if* they can manage to trust each other enough to play A_1 B_1 in Stencil S. With the obvious doublecross threat, however, it was expected that teams with a strong competitive orientation would choose the safer and less lucrative Stencil D.

C. Results

1. *Session 1*

a. Monetary payoff and cooperative play. The joint payoffs on the test stencils were computed for each team. An analysis of variance, which is summarized in Table 2, shows that the joint payoff was greater for the nonbonus teams than for the bonus teams; but that no difference existed among the three stencil conditions. It is not surprising to find that there was more competitive activity (hence, lower joint payoffs) in bonus teams than in nonbonus teams. All this finding does is to lend support to the contention that joint payoff is a meaningful measure of cooperative effort. The inability of the stencils to provide economic differences has more impact.

A second index of cooperativeness and trust mirrors the foregoing finding. In the final stencil, *S*s were given an opportunity to make a selection for which they could receive a fairly nice payoff but which required considerable trust of the other team because each team was in a position to doublecross the other players. If a team was doublecrossed it would lose a considerable amount. Six of the nine nonbonus teams chose this cooperative play, while only one of the nine bonus teams ever made that choice. The cooperative choices were evenly distributed among the three stencil conditions.

b. Ratings. The ratings made by each *S* were added to the ratings of his teammates to provide a single score on each of the 20 rating scales. These

TABLE 2
JOINT PAYOFF IN THE FIRST SESSION

Source	*df*	*MS*	*F*
Bonus *vs.* nonbonus	1	206,939	6.37*
Stencils	2	4,016	
Interaction	2	12,539	
Error	12	32,492	

* Significant at the .05 level.

scores were analyzed in a two-by-three multivariate analysis-of-variance design (1, 7, 14). In that type of design, it is possible to analyze the 20 variables simultaneously. There are 20 dependent variables instead of one dependent variable, as is usually the case. To the extent that the criterion is not factor pure (i.e., is multidimensional in nature), this technique provides a more sensitive and a more accurate test of the hypotheses under consideration.

The summary of the analysis shown in Table 3 includes a test of the difference of the vectors in the 20-space, univariate *F* ratios (a Bartlett chi-square approximation of the maximum-likelihood ratio statistic) for each of the 20 variates and step-down *F* statistics (3, 11). The latter provides some indication of the incremental discriminative value of a particular variable by indicating what its univariate *F* ratio would be if the effect of all variables preceding it were removed by covariance techniques.

The Bartlett chi square for the effect of the bonus conditions is only marginally significant. There are, however, several univariate *F* ratios that are significant (Variables 1, 3, 6, 12, and 14) and each of these, except one (Variable 12), has a significant step-down *F* ratio. This suggests that there are several dimensions on which the bonus groups may be different from the nonbonus groups, and that a certain discriminability can be achieved with the present rating scales. It also suggests that the rating scales could be revised to increase this discriminability.

The four variables that had significant univariate and step-down F statistics are 1) "analyzed the problems correctly," 3) "accomplished objectives in negotiations," 6) "negotiated in the interest of other group," and 14) "was willing to compromise." In each case, the bonus condition had a lower mean

TABLE 3
MULTIVARIATE ANALYSIS OF VARIANCE OF RATINGS IN SESSION 1

Variable	Bonus vs. nonbonus[1]		Stencils[2]		Bonus-by-stencils interaction[3]	
	Univariate F*	Step-down Fs	Univariate F**	Step-down Fs	Univariate F**	Step-down Fs
1	*4.53*	*4.53*	3.26	3.26	*3.82*	*3.82*
2	.20	.41	.21	.34	.57	.29
3	*6.38*	*4.64*	1.43	2.57	.71	.06
4	.98	.52	.31	.65	*3.60*	*3.89*
5	.01	.60	2.17	2.98	.43	.65
6	*15.15*	*10.74*	1.71	.41	*6.26*	*4.10*
7	.79	.03	1.60	2.38	.46	1.03
8	.63	1.05	.91	.02	.16	1.26
9	2.12	.06	.28	1.53	1.42	.18
10	.69	1.36	1.35	.52	*3.67*	1.26
11	2.13	.00	1.47	.62	.23	.80
12	*4.79*	.01	.84	1.60	.45	1.21
13	.85	1.71	.30	.63	3.06	1.71
14	*7.47*	*6.60*	1.52	1.93	*4.17*	2.57
15	2.70	.06	*3.42*	1.01	2.78	1.27
16	1.09	1.99	*8.42*	*3.74*	1.98	.33
17	2.91	2.29	.19	.01	.84	.42
18	.05	.05	.26	2.68	.10	.60
19	.76	.17	.28	1.57	.44	.64
20	2.39	.11	.45	.25	1.03	1.16

[1] Maximum-likelihood chi square = 30.9, $df = 20$, $.10 > p > .05$.
[2] Maximum-likelihood chi square = 54.76, $df = 40$, $.10 > p > .05$.
[3] Maximum-likelihood chi square = 49.53, $df = 40$, $.20 > p > .10$.
[a] The degrees of freedom are reduced by one for each succeeding step-down F; therefore, there is no single value of F that is significant for the 20 step-down Fs in a section. Significant step-down F ratios are in italics.
* $df = 1, 30$; $F_{.05} = 4.17$; $F_{.01} = 7.56$; $F_{.001} = 13.29$; significant values in italics.
** $df = 2, 30$; $F_{.05} = 3.32$; $F_{.01} = 5.39$; $F_{.001} = 8.77$; significant values in italics.

than the nonbonus condition. Variables 6 and 14 do not seem particularly interesting because they are obvious reactions to being placed in one of the two conditions. Variables 1 and 3, however, are not so obvious. They indicate that *S*s in the bonus condition were not as satisfied with the quality of their negotiation as were nonbonus *S*s. One might assume that they felt their negotiation task more difficult; or that more tension was aroused in their negotiation, and that their relative dissatisfaction is a manifestation of that

tension. In any event, it seems clear that there is greater satisfaction with the negotiation when there has not been a formal and explicit positioning of a competitive relationship among the negotiators.

The analysis also indicates that there was a marginal ability to discriminate among the stencil conditions. Only two of the univariate F statistics are significant, however; and only one of these (Variable 16: "broke promises") has a significant step-down F ratio. Since one significant F in 20 is exactly what one expects to find when using the .05 level, it seems proper to ignore the "significance" of this F ratio. As best as can be determined, no systematic effect of the stencil conditions existed in the present study.

2. *Session 2*

a. Monetary payoff and cooperative play. No significant differences in joint payoff were found in the second session. This finding supports the contention of several of the observers that there did not appear to be any difference between the bonus groups and the nonbonus groups in the second session. In a moment we will show, however, that the *S*s and the observers by no means perceived these events identically. Finally, there was no systematic distribution of the cooperative choices on the last stencil among the various experimental conditions.

b. Ratings. The multivariate analysis-of-variance design used for analyzing the data from the second session was the same as that used in the first session, with the exception that the ratings of the observers were included as a third independent factor. A summary of this analysis is shown in Table 4. A more detailed analysis of the *S*s-*vs.*-observer effect is shown in Table 5.

The most striking aspect of this analysis is the difference in ratings between the *S*s and the observers. A good deal of this difference, however, must be attributed to the general (and rather pervasive) tendency of the *S*s to describe themselves in more favorable terms than did the observers. This tendency can be seen on each of the 20 scales. Unfortunately, the evaluation of the total effect includes this undesirable component; but it is possible to look at the step-down F statistics for each variate and determine if the difference between *S*s and observers is due simply to a constant mean difference in the use of the scale. If this be the case, then the F statistics for the individual scales would drop below those required for statistical significance when the other variables had been accounted for through covariance.

Ten variables have significant step-down F ratios. This implies that there are several dimensions upon which the judgments of *S*s and observers differed not merely in absolute terms but in relation to the entire judgmental system.

The seven scales in which there are significant step-down F ratios are 1) "analyzed the problems correctly," 2) "planned how to conduct negotiations," 8) "suggested proposals for action," 9) "utilized threats or warnings," 11) "appealed to principles of fair play," 12) "was frankly 'out to win,'" and 13) "tried to cooperate." Although it must be cautioned that this procedure does

TABLE 4
SUMMARY OF MULTIVARIATE ANALYSIS OF VARIANCE OF RATINGS IN SESSION 2

Source	Maximum-likelihood chi square	*df*	*p*
(A) Subject *vs.* observer	56.67	20	< .0005
(B) Bonus *vs.* nonbonus	24.10	20	ns
(C) Stencils	54.73	40	< .10
Interaction			
A X B	17.88	20	ns
A X C	36.30	40	ns
B X C	38.13	40	ns
A X B X C	31.22	40	ns

TABLE 5
SUMMARY OF SUBJECT-*vs.*-OBSERVER EFFECT IN SESSION 2 RATINGS

Variable	Univariate F*	Step-down F[a]	Variable	Univariate F*	Step-down F[a]
1	*7.77*	*7.77*	11	*15.31*	*10.98*
2	*27.94*	*17.65*	12	*16.05*	*5.43*
3	*8.94*	.58	13	*6.04*	*4.19*
4	3.62	.05	14	2.39	.13
5	.06	.48	15	*4.03*	.01
6	.07	.05	16	1.06	.27
7	*5.37*	1.21	17	*24.87*	1.58
8	*22.09*	*6.91*	18	.68	.01
9	*7.21*	*4.66*	19	2.79	2.80
10	.52	.14	20	1.25	3.35

* $df = 1, 60$; $F_{.05} = 4.00$; $F_{.01} = 7.08$; $F_{.001} = 11.97$; significant values in italics.

[a] See Footnote "a" in Table 3 concerning degrees of freedom for step-down F ratios.

not give rigorous description of the dimensionality of the subject-observer differences, it is possible to gain considerable insight into the problem. Clearly, the *S*s and the observers did not differ *simply* because the *S*s described themselves in a more favorable light. They also differed on several "content" dimensions.

D. Discussion

In each session the differences among the stencil conditions are only marginally significant. The only item with a significant step-down F in Session 2 is "tried to cooperate." Ordinarily, a single significant F ratio out

of 20 would be ignored, as was done in a similar situation with the Session 1 data. But the one under discussion has some additional interest because the "competitive" stencils seemed to produce more cooperation than the "cooperative" stencils. Further, this same relationship is to be seen in virtually every instance in the present data; although the differences are never significant. That is, the "competitive" stencils have an insignificantly higher joint payoff in both Sessions 1 and 2; and the rating descriptions are consistent with the direction of that difference.

We may conclude, therefore, that the failure to corroborate the experimental hypotheses in regard to the differences among stencils is not due to insensitivity of the experimental procedures. *The hypotheses were not corroborated because the hypotheses are wrong.* Putting people in a situation in which the stumbling blocks of negotiation have been removed does not mean they will behave cooperatively. The implication of this finding may be far reaching.

Consider, for example, the position taken by Blake and Mouton (2). In their work on intergroup negotiation, Blake and Mouton suggest that effective, cooperative negotiation can be accomplished if the "win-lose dynamics" can be avoided. If the similarities rather than the differences are emphasized, the negotiators, Blake and Mouton say, can achieve a cooperative tone. But this is precisely what was tried in the present experiment. The cooperative stencils emphasized similarities, while the competitive stencils emphasized differences. While the notions forwarded by Blake and Mouton should contribute to preventing negotiations from becoming heated, the present data offer no support for the implication that more cooperative negotiation will follow.

It should be added that it is possible to get *S*s to negotiate in almost any manner in which the experimenter desires. All the experimenter needs to do is to instruct *S*s in how the experimenter wants them to behave; i.e., to give *S*s an explicit instructional set (4, 13). This, however, is more of a comment on the demands of the laboratory environment (9) than it is on the study of the antecedents of trustful negotiation. Others (12) have noted, as in the present experiment, that an environment that rewards cooperation does not necessarily produce cooperative behavior. Just how cooperation can be fostered without the verbal intervention of the experimenter is still an enigma.

The findings of this study highlight one other important problem for future work. We have seen that the *S*s and the observers did not describe things in the same way. Just which point of view is more useful is impossible to say.

Whereas some may take the position that the observers were more objective and, therefore, more accurate; we have no reason to believe that their data are more valuable in either a theoretical or a predictive sense. That question, as most others, demands an empirical test. Until we know considerably more about the perception of *S*s and observers, an experimenter will be forced (to employ a famous dictum) to pay his money and take his choice.

E. Summary

Thirty-six two-man teams participated in a negotiation experiment that used two-by-two game matrices. An attempt was made to shape the negotiating behavior by manipulating the prior experiences of the teams. There were three experimental conditions. Each was designed to foster one particular orientation towards the negotiations. The intended orientations were (*a*) competitive, (*b*) cooperative, and (*c*) limited-trust. No systematic differences were found, however, between the teams in the three conditions. The implication of this result, with particular reference to the position forwarded by Blake and Mouton, was discussed.

In addition, differences in the perception of the negotiations by participants and nonparticipants (observers) highlighted the arbitrariness of experimental procedures that depend on self-report or observational rating but not on both.

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GROUP CHARACTERISTICS AS PERCEIVED BY MEMBERS OF RELIGIOUS AND RACIAL GROUPS*

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A. INTRODUCTION

In an ideal democratic society each person would be judged on the basis of his own actions. However, it is probable that in our daily relationships the democracy of the person is rarely absolute. It appears that individuals are usually evaluated in terms of their group identification as well as on the basis of personal actions.

In an early study by Katz and Braley (9) college students at Princeton University selected from a list of 84 traits those which they thought to be characteristic of 10 social groups. There was high agreement among subjects in assigning different traits for the 10 social groups. This finding has been verified by many similar studies (2, 3, 7, 15).

The question arose in the present authors' minds as to whether religiously oriented college students would be less likely to assign traits to different social groups than would nonreligiously oriented college students. Presumably, religiously oriented groups are devoted to espousing the dignity of man and favor treating each individual with respect and consideration. The present study was therefore undertaken to explore stereotyping among religious and ethnic groups.

Saenger and Flowerman (14) investigated the performance of students from a number of eastern colleges in assigning traits to nine social groups. They used 26 of the traits employed by Katz and Braley (9). In this case the psychologist requested the subjects to rate the nine groups by listing various of the 26 traits which seemed to them most typical of each of the subject groups. They also then rated themselves in terms of whether they showed any of those traits themselves, and finally they were to rate each of the 26 traits in terms of whether they approved or disapproved of that trait.

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[1] We wish to acknowledge the aid of the Human Relations Research Fund in compiling statistical data.

Saenger and Flowerman (14) found that a social group that was apparently disliked could still be assigned some of the same traits as the social group that was apparently liked (the authors' estimate of what was liked and disliked). Also, terms of whether the subject would admit the individual from the social group into his fraternity (which seemed to indicate hostility or acceptance) did not correspond to the approval or disapproval expressed of the traits assigned to the social group.

Merton (11), as others have, suggests that cognitive components of prejudiced attitudes may be principally rationalizations of more basic affective or conative orientations. He points out that the very same list of traits can be given for a person one admires—being considered to be good traits—while the same characteristics may be considered undesirable when displayed by a person who is disliked. In other words, although stereotypes may sample affective and conative aspects of prejudice, it may be that they are not in and of themselves positive factors in producing feelings and attitudes.

However, there is evidence that the actual perception of a person by another individual is affected by the stereotype which he holds regarding that person or people in general. Scodel and Mussen (16) in an experimental social situation (a 20-minute discussion of radio, television and movies) found that college-student subjects who were high on the California F Scale (on a pretest) judged the participants who were actually low on the F Scale (pretest) as likely to score high on the F Scale. The high-authoritarian students did not perceive the low-authoritarian students as being in any significant way different from themselves.

On the other hand, the low-authoritarian subjects, although they estimated the high-authoritarian subjects as likely to score significantly higher than themselves, nevertheless placed them significantly lower than the high's actual mean score (pretest). In an overall estimate of whether the subjects were accurate, inaccurate, or in the middle in their judgment of the other subjects, a highly significant chi square was found between high authoritarianism and inaccuracy, or to state it the other way, between low authoritarianism and relative accuracy in judging other subjects. Although the overall authoritarian F score was used, it embodies a series of stereotypes and ethnic prejudices.

While Gilbert's (8) repetition of the Katz and Braley (9) study indicated a lessening of tendency to stereotype groups, the present study in a midwestern college town undertaken a decade later, as will be seen, finds subjects generally quite willing to complete forms revealing their stereotyping of groups.

B. Subjects

The questionnaire described below was administered to students (at a midwestern university) affiliated with religious foundations which had cooperated in carrying out earlier studies. In addition, comparable community church groups were polled and one Negro group.

The Negro[2] group was utilized because it appeared to be a group set apart ethnically. It was felt that the Jewish student group, although apparently a religious group, might equally well be considered an ethnic group. The different groups of subjects were Protestant[3] A (PA), Protestant A student (PA_s), Protestant B (PB), Protestant B student (PB_s), Jewish student (J_s), Catholic (C), Catholic student (C_s), and Negro[3] (N).

Members of student religious foundations were distributed as follows: 30, Catholic religious organization (Newman Club); 23, Jewish Fraternity (Sigma Alpha Mu, affiliated with Hillel); 29, Jewish religious organization (Hillel); 4, Visitors at Hillel (included in the student data); 12, Episcopalian religious organization (Canterbury); 21, Baptist religious organization (Baptist Bible Union); 51, Baptist religious organization (student foundation); 15, Evangelical United Brethren (E.U.B. Student Fellowship); 33, Methodist student organization (Wesley Foundation); 21, Presbyterian religious organization (Westminster); and 26, Christian religious organization (Christian Foundation). A total of 265 college youth responded to the questionnaire. In addition, 89 members of community religious or ethnic groups responded to the questionnaire: 20, Blessed Sacrament Catholic Church; 6, Kossuth Street Baptist Church; 10, First Baptist Church; 11, Evangelical United Brethren; 27, First Christian Church; and 15, National Association for the Advancement of Colored People. While 354 individuals responded, only 292 subjects completed page one of the questionnaire dealing with the 21 characteristics described below.

C. The Questionnaire

The questionnaire of this study was designed for tapping feelings and attitudes and, of course, does not measure actual characteristics of groups.

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[2] It is to be noted that this group is doubly selected. These Negroes are members of NAACP and voluntarily participated in a joint program with Jewish students at the Jewish Foundation where they were given this test.

[3] In an earlier study of attitudes in the same community the authors observed that two Protestant foundations differed significantly in attitudes from the other Protestant groups (13). The two Protestant groups are maintained for this study. Differences between Protestants have also appeared in a national study (12). The data of the present study also indicate statistically significant differences between the two Protestant groups (see Footnote 5).

Respondents were merely given the opportunity to reveal their own possibly stereotyped (or prejudiced) thinking.

The instrument, which was evolved to test the hypotheses, requested the subject to check 14 different groups on 21 traits presented in tabular form. In the case of each trait, the subject was requested to state which one of the 14 groups the trait in question "fitted best" and which one of the 14 groups the trait in question "fitted least." The 14 social groups to be described were (*a*) American, (*b*) Catholic, (*c*) Chinese, (*d*) English, (*e*) French, (*f*) German, (*g*) Irish, (*h*) Italian, (*i*) Jewish, (*j*) Mohammedan, (*k*) Mormon, (*l*) Negro, (*m*) Protestant, and (*n*) Russian.

The 21 characteristics that were to be matched with the social group which "best fits" or "least fits" were 1) heavy drinkers, 2) voracious eaters, 3) close family ties, 4) emphasize physical fitness, 5) excitable, 6) industrious, 7) enjoy manual labor, 8) enjoy reasoning, 9) maintain group responsibility, 10) maintain group loyalty, 11) prefer business careers, 12) prefer professional careers, 13) prefer farming careers, 14) prefer art or literary careers, 15) religiously oriented, 16) prepare for the future, 17) respect scholarship, 18) frugal (thrifty), 19) fair in business dealings, 20) spiritually oriented, and 21) charitable.

In addition to this checklist for the 21 characteristics, presented on the front of the questionnaire, the reverse side included several questions relating to self-identification and regularity of attendance for worship. Respondents were asked to check "I am _____" against the same 14 social groups in the checklist. In addition a final query read: "I attend religious services approximately (please check) _____ once a year, _____ once a month, _____ once a week." Several other questions relating to who are "the chosen people," not an integral part of the main study, are being reported elsewhere.

The social groups listed include all of Scodel and Mussen's except for men, women, and workers. The list also includes most of the Katz and Braley's and similar lists of social groups. The 21 characteristics include some of those used in other studies, but introduce some new and different characteristics. As has been shown in various studies and particularly recently by Diab (5) the image of a group is modified by including or eliminating certain groups from the list of groups being rated.

D. Some Hypotheses

Several hypotheses concerning the respondent's stereotyped thinking about other groups as well as his possibly prejudiced views concerning his own group were formulated.

Hypothesis 1. When a subject reacts to one characteristic at a time, selecting the social group which that characteristic "fits best" and the social group which that characteristic "fits least" (direct rating), the same overall description is found for a social group as the description which appears when that subject group is inspected on the entire list of characteristics (indirect rating).

Hypothesis 2. Each subject group's self-image is the same as its image projected by the other subject groups.

Hypothesis 3. Each subject group's self-image is the same as its image of the American.

Hypothesis 4. The various subject groups agree in their description of the American.

Hypothesis 5. Subject groups are alike in that they assign to themselves traits which they consider they do have instead of describing themselves in terms of traits which they consider that they lack.

Hypothesis 6. Subject groups are alike in classifying themselves by a religious category combined with "American"—for instance, "American-Catholic"—rather than in classifying themselves solely by their religious category.

E. Procedure

1. *Administration*

The leader distributed the questionnaires at a general organization program and read aloud the directions printed at the top of the questionnaire. Following the reading he asked whether there were any questions and proceeded to answer the few queries raised. The directions were as follows:

> Group Traits
>
> Individuals differ in their habits and outlook. Will you help us describe groups with regard to their frequent habits and their usual outlook? For each habit or outlook listed below please place a check, √, below the group which *best fits* the description and a zero, 0, below the group which *least fits* each characteristic.

This procedure allowed two different kinds of summaries: for example, (*a*) Chinese might be thought to be the group that "least fits" "heavy drinkers," and the Germans might be thought to "fit best" "heavy drinkers" (this first summary is called the *direct* description); (*b*) the other summary follows a specific group—for instance, the French—down through all the 21 characteristics to see which traits were significantly often checked as being the

"best fit" for a Frenchman. (The second type of summary is called the *indirect* description).

The requirement of a subject to find one "best fits" and one "least fits" social group for each of the 21 characteristics in turn is a different procedure from the one used by other investigators, such as Katz and Braley (9). This is to a certain extent a forced-choice kind of situation in that the individual is not free, as in earlier studies, to assign any of the characteristics that he sees fit to a particular social group. On the contrary, as has been said, he must take the characteristic and find the social group which it "fits best" and the social group which it "fits least."

2. *Statistical Procedure*

In order to locate direct descriptions which occurred significantly more often than chance, it was assumed that if there were no selective factor at work the characteristic which "least fits" and which "best fits" would appear equally often in all of the 14 groups, a percentage base of 28 (3.6 per cent of the total in each cell).

For the other type of summary, the indirect description (which ones among the total 21 characteristics might be accepted or rejected for a given group such as the French), it was necessary to count how many entries there were for each social group. For each of the groups under study there would then be a different number of entries. The sum of the entries for the rejected and the accepted characteristics was considered the percentage base in this type of summary. (The unselected entry in each cell for 21 characteristics either "least" or "best" is 2.38 per cent of the total.) Percentages were calculated for all entries, first horizontally by characteristic—for example, "heavy drinker"—and, second, vertically by social group—for instance, the French. The standard error of each percentage was calculated and the standard error of the difference between the unselected percentage and the obtained percentage. Percentages which appeared at or above a point 2.06 standard error of the difference above the uniform percentage were accepted as percentages which were significantly different from chance—namely, at the .02 level.

The significant percentages at the .02 level for each subject group for the "horizontal" summary (direct description)—namely, by characteristic—follow (the N in each case represents the number of usable questionnaires; it should be noted that the percentage base in each case is twice the number of subjects in the subject group in question because of two designations' being possible—"fits best" and "fits least"): Protestant A—$N = 15$, 10.6 per cent; Protestant A student—$N = 81$, 6.6 per cent; Protestant B—$N = 21$, 9.5 per cent;

Protestant B student—$N = 78$, 6.6 per cent; Jewish student—$N = 38$, 8.0 per cent; Catholic—$N = 15$, 10.6 per cent; Catholic student—$N = 29$, 8.6 per cent; and Negro—$N = 15$, 10.6 per cent. Total number of usable questionnaires (N) was 292.

For the "vertical" summary (indirect description), the number of entries "least fits" plus "best fits" for each social group ran from 12 entries by the Negro (N) subject group for "Protestant" to 629 entries by the Protestant A student group (PA_s) for "American."[4] The per cent of entries necessary to reach the .02 level of confidence for a characteristic ranged from 11.4 per cent to 3.6 per cent.

F. Findings[5]

1. A quantitative summary for "best fits" and "least fits" traits by direct description (the manner in which respondents were asked to respond to the 21 characteristics) as compared with the quantitative summary by social group (the indirect description) indicates marked differences when social groups are evaluated.

The picture of the American yields 72 "best" and 36 "least fits" traits by the direct method (each subject group counted for each characteristic marked, a possibility of 8 times 21 characteristics or a possible 168); whereas, by the indirect method only 44 "best" and 15 "least fits" traits appear. This seems to suggest that the deeply felt picture of the American (the indirect method) is not the same as the more or less "flash" assignment of traits that, for some reason or other, the respondent used currently to vent a possible feeling of antagonism or of admiration for an American.

By contrast the evaluation of the Protestant group reveals more significant traits from the indirect approach (direct "best fits" $= 2$, direct "least fits" $= 9$, indirect "best fits" $= 16$, indirect "least fits" $= 24$). The German group is a case where there is the same number of significant responses by the

[4] All tests of significance involved in this study were of a two-tail nature and were calculated in the manner indicated in Downie (6), for testing the differences between two percentages.

[5] Several detailed tables (Table A—a comparison of Protestants A and B; Table B—a list of the number of vertical entries for each social group and the percentages necessary to reach significance at the .02 level; Table C—characteristics of each social group assigned by different subject groups ["direct" responses]; and Table D—the same findings evaluating a social group on all 21 characteristics ["indirect" description]) have been deposited as Document 8693 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $2.50 for photoprints, or $1.75 for 35 mm microfilm. Advance payment is required. Make checks or money orders payable to Chief, Photoduplication Service, Library of Congress.

TABLE 1

CHARACTERISTICS ASSIGNED TO SOCIAL GROUPS BY FOUR OR MORE SUBJECT GROUPS*

(All characteristics listed appeared at the .02 level of significance)

Group described	Best—Direct	Best—Indirect	Least—Direct	Least—Indirect
American	Voracious eaters (4) Industrious (6) Enjoy reasoning (6) Maintain group responsibility (5) Prefer business careers (7) Prefer professional careers (8) Prepare for the future (8) Respect scholarship (6) Fair in business dealings (6) Charitable (8)	Prefer business careers (6) Prefer professional careers (8) Prepare for the future (6) Charitable (8)	Close family ties (4) Emphasize physical fitness (5) Enjoy manual labor (6) Prefer farming careers (4) Frugal (thrifty) (8)	Enjoy manual labor (5) Frugal (thrifty) (5)
Catholic	S Maintain group responsibility (4) S Maintain group loyalty (5) S Religiously oriented (7) S Spiritually oriented (8)	Maintain group responsibility (5) S Maintain group loyalty (5) S Religiously oriented (8) S Spiritually oriented (8)		
Chinese	Close family ties (6) Prefer farming careers (5)	Close family ties (6)	Heavy drinkers (5) Voracious eaters (8) Prefer professional careers (4)	Voracious eaters (8)

TABLE 1 (*continued*)

Group described	Best—Direct	Best—Indirect	Least—Direct	Least—Indirect
English		Prefer art or literary careers (6) Respect scholarship (4) Fair in business dealings (5)	Excitable (5)	Excitable (7) Prefer farming careers (4)
French	Heavy drinkers (5) Prefer art or literary careers (7)	Heavy drinkers (6) Excitable (7) Prefer art or literary careers (8)		
German	Heavy drinkers (5) Voracious eaters (4) Emphasize physical fitness (6) Industrious (6) Enjoy manual labor (6)	Heavy drinkers (4) Voracious eaters (7) Emphasize physical fitness (7) Industrious (7) Enjoy manual labor (5) Enjoy reasoning (4)		
Irish	Heavy drinkers (5) Frugal (thrifty) (4)	Heavy drinkers (6) Excitable (5) Enjoy manual labor (5) Prefer farming careers (5) Frugal (thrifty) (4)		Respect scholarship (4)
Italian	Voracious eaters (7) Excitable (7)	Voracious eaters (8) Excitable (8)		

TABLE 1 (*continued*)

Group described	Best—Direct	Best—Indirect	Least—Direct	Least—Indirect
Jewish	S Close family ties (6) S Maintain group responsibility (6) S Maintain group loyalty (7) S Prefer business careers (8) S Frugal (thrifty) (7)	S Close family ties (5) Maintain group responsibility (4) S Maintain group loyalty (8) S Prefer business careers (7) S Frugal (thrifty) (6)	S Enjoy manual labor (4) S Prefer farming careers (5) B ½Fair in business dealings (8)	S Enjoy manual labor (4) S Prefer farming careers (4) Fair in business dealings (7)
Mohammedan				Heavy drinkers (6) Industrious (5) Prefer professional careers (4)
Mormon		Maintain group responsibility (4) Prefer farming careers (4)	Heavy drinkers (8)	Heavy drinkers (8)
Negro	Enjoy manual labor (7)		S Industrious (8) Enjoy reasoning (7) S Maintain group responsibility (7) Prefer business careers (6) S Prefer professional careers (6) Prefer art or literary careers (7)	Industrious (7) Enjoy reasoning (6) S Maintain group responsibility (6) Prefer business careers (4) S Prefer professional careers (7) Prefer art or literary careers (6)

TABLE 1 (*continued*)

Group described	Best—Direct	Best—Indirect	Least—Direct	Least—Indirect
Negro (*continued*)			Prepare for the future (7) Respect scholarship (5) Frugal (thrifty) (4)	Prepare for the future (7) Respect scholarship (4) Frugal (thrifty) (4)
Protestant				S Maintain group loyalty (7) S Religiously oriented (6) B Spiritually oriented (4)
Russian	Emphasize physical fitness (7) Prepare for the future (4)	Emphasize physical fitness (5)	Close family ties (6) Enjoy reasoning (4) Maintain group loyalty (5) Prefer art or literary careers (5) Religiously oriented (8) Fair in business dealings (4) Spiritually oriented (8) Charitable (7)	Close family ties (4) Religiously oriented (8) Spiritually oriented (8) Charitable (6)

* The number in parentheses gives the number of subject groups reporting the characteristic. S = same trait assigned to own subject group, B = a "least fits" trait assigned by the subject group to "best fits" for itself.

direct and by the indirect method (direct "best fits" = 41, direct "least fits" = 1; indirect "best fits" = 42, indirect "least fits" = 1).

2. When four or more of the subject groups are used as the criterion for retaining a characteristic (already selected at the .02 level of significance), contrasts between the direct and the indirect method of assigning characteristics tend to be reduced or to disappear, suggesting that some questions of stereotypes are lost when smaller groups, homogeneous in some respect, are merged with other groups different in the effective respect. See Table 1 for traits assigned by four or more subject groups.

Although the American group is given characteristics, both by the direct and by the indirect method, the Protestant group is given statistically significant characteristics only by the indirect method. Furthermore, Protestant is given only "least fits" characteristics by half or more of the subject groups, whereas the American is given both "best" and "least fits" traits.

The Catholic social group receives the same readings directly and indirectly and they are given only "best fits" characteristics.

The Jewish group likewise receives the same description directly and indirectly both in the "best fits" and "least fits" categories. A considerable number even agree themselves that they are "least fits" in "fair in business dealings." However, there is also a statistically significant number of Jews who oppose this particular rating in the direct evaluation. The Negro receives the same reading by direct and indirect approach and has only "least fits" traits.

Table 1 suggests that there is a greater degree of certainty in labeling the Negro with "least fits" traits than in portraying the American or the Russian. The characteristics of the Negro appear approximately the same by both direct and indirect methods, while there are fewer characteristics that appear indirectly for American or Russian.

In some cases even with the requirement of four groups' agreeing, real changes occur in the indirect description. For instance, the English have no "best fits" directly and three indirectly. Similarly, the Irish go from two "best fits" traits in direct description to four by "indirect description" and add one "least fits." The Russians, having eight "least fits" traits by the direct method, drop to four by the indirect method.

The indirect description of an American by each of the eight subject groups is presented in Table 2. The "best fits" picture of the American is distinctly different from subject group to subject group among the community groups, especially in the combinations of traits. Two traits run through all four community groups ("prefer professional careers" and "charitable") but they are

TABLE 2

"AMERICAN" DESCRIBED: INDIRECT DESCRIPTION*

(All characteristics listed appeared at the .02 level of significance)

Section A—"Best Fits"

Protestant A (PA)	Protestant B (PB)	Catholic (C)	Negro (N)
Industrious	Voracious eaters	Prefer business careers	Heavy drinkers
Prefer professional careers	Enjoy reasoning	Prefer professional careers	Prefer business careers
Prepare for the future	Prefer business careers	Prepare for the future	L Prefer professional careers
Charitable	Prefer professional careers	Respect scholarship	Charitable
	Fair in business dealings	L Charitable	
	S Charitable		
Protestant A student (PA_s)	**Protestant B student (PB_s)**	**Catholic student (C_s)**	**Jewish student (J_s)**
Voracious eaters	Voracious eaters	Prefer business careers	S Prefer professional careers
Industrious	S Enjoy reasoning	Prefer professional careers	Prepare for the future
S Enjoy reasoning	Maintain group responsibility	Prepare for the future	Fair in business dealings
Prefer business careers	Prefer business careers	S Charitable	S Charitable
Prefer professional careers	Prefer professional careers		
S Prepare for the future	Prepare for the future		
Respect scholarship	Respect scholarship		
Fair in business dealings	S Charitable		
S Charitable			

Section B—"Least Fits"

Protestant A (PA)	Protestant B (PB)	Catholic (C)	Negro (N)
Emphasize physical fitness		Frugal (thrifty)	Enjoy manual labor
Frugal (thrifty)			
Protestant A student (PA_s)	**Protestant B student (PB_s)**	**Catholic student (C_s)**	**Jewish student (J_s)**
Enjoy manual labor	Emphasize physical fitness	Close family ties	S Enjoy manual labor
Frugal (thrifty)	Enjoy manual labor	Emphasize physical fitness	
	Frugal (thrifty)	Enjoy manual labor	
		Prefer farming careers	
		Frugal (thrifty)	

* S = same trait assigned to own subject group, L = a "best fits" trait assigned by the subject group to "least fits" for itself.

combined with different other traits in each of the four community groups.

The four student groups name more traits for the American than do the community groups. They also appear more similar in their concept of the American in that three traits run through all four student designations ("prefer professional career," "prepare for the future," and "charitable"). The two Protestant student groups give the American nine and eight traits apiece and show four characteristics in common in addition to the three that all four student groups show ("voracious eaters," "enjoy reasoning," "prefer business careers," and "respect scholarship").

In the "least fits" description no trait runs through the four community groups; and only one, "does not enjoy manual labor," is presented by all four student groups. The Catholic student group assigns five "least fits" traits to the American as against only three, two, and one for the other student groups. The three presented by Protestant B students are included by the Catholic students.

3. To restate the "best fits" picture of the American that was accumulated by the *indirect* method (see Table 1), the "American" is said by half or more subject groups (*a*) to "prefer business careers," (*b*) to "prefer professional careers," (*c*) to "prepare for the future," and (*d*) to be "charitable."

Only the Jewish group among the other 13 social groups shares any "best fits" trait with the "American." Both the Jewish person and the American person are said to "prefer business careers" and both "do not enjoy manual labor."

The other social groups are assigned the following characteristics which the "American" is not assigned (Table 1): (*a*) Catholic—maintain group responsibility, maintain group loyalty, are religiously oriented, and are spiritually oriented; (*b*) Chinese—have close family ties; (*c*) English—prefer art or literary careers, respect scholarship, and are fair in business dealings; (*d*) French—are heavy drinkers, respect scholarship, are excitable, and prefer art or literary careers; and (*e*) German—are heavy drinkers, are voracious eaters, emphasize physical fitness, are industrious, enjoy manual labor, and enjoy reasoning; (*f*) Irish—are heavy drinkers, are excitable, enjoy manual labor, prefer farming careers, and are frugal (thrifty); (*g*) Italian—are voracious eaters, and are excitable; (*h*) Jewish—have close family ties, maintain group responsibility, maintain group loyalty, and are frugal (thrifty); (*i*) Mohammedan—no characteristics assigned by four or more subject groups; (*j*) Mormon—maintain group responsibility, and prefer farming careers; (*k*) Negro—no characteristics assigned by four or more subject groups; (*l*) Protestant—no characteristics assigned by four or more subject groups; and (*m*) Russian—emphasize physical fitness.

4. In Table 1 certain notations indicate which traits assigned by four or more of the subject groups are traits that an individual subject group in question assigned to itself as a social group. (S indicates same trait assigned to own subject group; L indicates that the subject group assigned a "best fits" to "least fits" for itself; and B indicates that the subject group assigned a "least fits" to "best fits" for itself.)

The picture of the American given in Table 2 uses the same terminology to indicate which traits the individual group gives itself in common with the American.

The Catholic subject group agrees with the four or more subject groups (Table 1) in their description of the "best fits" traits of Catholic with one exception in the indirect description where the collection of subject groups gives them "group responsibility" which they do not give themselves.

The Jewish subjects give themselves the same traits in both "best" and "least fits" by both direct and indirect methods except that they do not describe themselves as "maintaining group responsibility" (indirect method). Also in the direct method "least fits" where all eight groups say the Jewish subject is not "fair in business dealings," a portion of the Jewish group, large enough to be statistically significant, describes itself as "best fits" "fair in business dealings." In the indirect method no longer does the Jewish subject group either claim "fairness" nor describe itself as "unfair in business dealings."

The Protestant group agrees with the four or more subject groups on two of the traits they are said not to have (indirect), but claims "spiritual orientation" which the collection of groups say they do not have.

Although there were only 15 Negro subjects—which probably means that the findings for the Negro subject group might be radically changed with larger numbers—it can be noted that of the nine "least fits" traits assigned by four or more groups by the direct method the Negroes concur in three. In the indirect method they concur in only two of the three traits. The Negro's self-image does, however, include other "least fits" traits. Such self-characterization stresses that the Negro "least fits" "excitable," "close family ties," and "maintains group loyalty."

5. In the picture of the American given in Table 2 it is striking that only one community group (Protestant B) gives itself any characteristics of the American and that in only one trait ("best fits" "charitable"), whereas two subject groups reverse the American's trait when applied to themselves, the Catholics saying the American is "charitable" and not mentioning it for the Catholic, and the Negro saying that the American "prefers professional careers" and not mentioning it for the Negro.

Among the students all four student groups say the American is "charitable"

and that they are themselves. In addition, the Protestant A student group gives itself two more traits of the American ("enjoy reasoning" and "prepare for the future"). The Protestant B student group gives itself "enjoy reasoning" and the Jewish student gives itself "prefer professional careers" in common with the American. In the "least fits" category, only one subject group denies itself a trait also excluded from the American picture; the Jewish student says he also "does not enjoy manual labor."

6. How does a subject classify himself? On the blank which was supplied to the subjects, each one was asked to check himself on the same list of 14 social groups in terms of "I am ——."

Differences appeared among the subject groups in how they classified themselves. There was no limitation to the number of checks that could be used. The total number of subjects for this portion of the study was 353, distributed among the eight groups of subjects listed above.

Nine of the social groups were not checked by any subject whose responses were used: Chinese, English, French, German, Irish, Italian, Mohammedan, Mormon, Russian.

Differences in identification within subject groups (such as "American" *vs.* "Catholic" within the Catholic subject group) are shown in Table 3 in terms of percentages of the subject group.

It is interesting to compare the percentage of each subject group which lists itself solely as "American": none for the Catholic community group or for the Negro; practically none for the Jewish. On this issue a similarity exists between the community group and the students within the Protestant A and within the Protestant B groups, while a disparity between the Catholic community group and the Catholic students is suggested by the percentages. Half the Negro group calls itself Negro. The same percentage, 14.3 per cent, terms itself American-Negro and American-Protestant; while 21.4 per cent calls itself Protestant.

A number of subjects checked only one category. Some checked two categories, and there was a scattering of subjects who checked from three up to 10. The chief single and double entries follow, in terms of the percentages of checks within each of the eight subject groups, student and community combined (the separate category "American" is the percentage of all subject groups combined): American, 14.7 per cent; Catholic, 10.8 per cent; American Catholic, 85.8 per cent; Jewish, 46.1 per cent; American Jewish, 52.0 per cent; Negro, 26.1 per cent; American Negro, 14.3 per cent; Protestant, 13.1 per cent; and American Protestant, 57.7 per cent.

An interesting question arose concerning the single and the double identi-

TABLE 3
DIFFERENCES IN IDENTIFICATION WITHIN SUBJECT GROUPS

Subject group	*N*	Amer.	Cath.	Amer. Cath.	Jew.	Amer. Jew.	Negro	Amer. Negro	Protestant	Protestant
PA	27	22.2							11.1	66.7
PA_s	87	23.0							10.3	66.7
PB	31	16.1							12.9	71.0
PB_s	92	18.5					2.2		9.7	69.6
J_s	52	1.9			46.1	52.0				
C	20		5.0	95.0						
C_s	30	6.7	16.7	76.6						
N	14						50.0	14.3	21.4	14.3
Total	353									

Note: PA = Protestant A, PA_s = Protestant A student, PB = Protestant B, PB_s = Protestant B student, J_s = Jewish student, C = Catholic, C_s = Catholic student, and N = Negro.

fications—for instance, Catholic *vs.* American-Catholic. For three of the double and single classifications the statistical significance of the difference was calculated and is presented in Table 4 .

The subjects who used any other category combination are counted in the total *N* for the percentage base. Note that for this checking there was only one entry available to the subject, "Protestant," not "Protestant A" and "Protestant B," separately.

TABLE 4
STATISTICAL SIGNIFICANCE OF THE DIFFERENCE IN THREE SINGLE AND DOUBLE CLASSIFICATIONS

Classification	*N*	% Base	%	*t*	*p*
Catholic	6	50	12.0	3.81	.001
vs.					
American-Catholic	42		84.0		
Protestant	25	237	10.5	5.51	.001
vs.					
American-Protestant	162		68.4		
Jewish	24	52	46.1	.41	—
vs.					
American-Jewish	27		51.9		

Whereas the Catholics and Protestants in this study report themselves overwhelmingly more often as "American-Catholic" or "American-Protestant" (at the .001 level of significance), the Jewish people present themselves equally often as "Jewish" and as "American-Jewish." The difference between these two Jewish designations appears to be pure chance. Among these three religious groups, then, it appears that two of them consider themselves primarily Americans professing a given religion. The third group, in half of the cases, apparently consider themselves primarily members of a religious-ethnic group while the other half of this group also think of themselves as Americans professing a given religion.

7. The final question requested respondents to indicate the regularity of their attendance at religious services. The overwhelming majority of respondents reported that they attended services once a week. The exception was the Jewish group, which had been equally divided in terms of identifying themselves as Jewish or American-Jew (whereas the others more clearly identified themselves as Americans belonging to a religious denomination).

G. STATUS OF HYPOTHESES

The nature of the material in the present study—primarily subjective categories rather than entities existing in varying amounts—led the experimenters to decide to estimate the status of each hypothesis by inspection

rather than by definitive statistical criteria. The apparent status of each hypothesis is as follows.

Hypothesis 1. The statement that social groups are given the same descriptions by the indirect method of accumulating descriptions as with the direct assignment of social groups to characteristics is not generally supported. This is indicated by the different characteristics appearing in the indirect method as compared with the direct method presented in Table 1.

Hypothesis 2. That a subject group's self-image is the same as its image projected by other groups is not sustained when separate subject group data are examined (see Footnote 5). However, Table 1 indicates that most of the traits projected by four or more of the other groups concerning the Catholic and Jewish groups appear in the self-image of Catholics and Jews, who also include several additional "best fits" traits. The Negro does not generally concur in describing himself with the many "least fits" traits ascribed to him by the others. Yet, the Negro ascribes to himself several "least fits" traits not assigned to him by a majority of the other groups. These added traits appear both directly and indirectly.

Hypothesis 3. That each group's self-image is the same as the image he suggests for the American is not supported by the findings. Table 2 indicates that student groups more readily ascribe to their own groups some of the traits they ascribe to the American than do community church groups.

Hypothesis 4. That subject groups differ in their description of the American is clearly indicated by Table 2. Table 1 indicates that the American receives more "best fits" traits by direct response than is suggested for any other group.

Hypothesis 5. That subject groups describe themselves in terms of traits they do have, rather than describe themselves in terms of traits which they do not have, is not completely sustained, although four of the five subject groups do so as indicated in Table 5 (indirect description, four or more subject groups). The Negro describes himself with "least fits" characteristics. The self-image of the Catholic and Jewish and both Protestant groups includes more "best fits" than "least fits" traits.

Hypothesis 6. The hypothesis that subject groups will describe themselves as Americans professing a certain religion and that groups will be alike in this respect is not upheld when different groups are compared. As noted earlier in this study the Catholic groups and the Protestant groups consider themselves American-Catholics and American-Protestants rather than a separate religious group; whereas the Jews in this study are equally divided between those who consider themselves American-Jewish and those who declare themselves as Jewish.

TABLE 5
SELF-DESCRIPTION BY SUBJECT GROUPS OF TRAITS THEY DO HAVE AND TRAITS THEY DO NOT HAVE

Subject group	Traits assigned	
	Have	Lack
Catholic	5	1
Jewish	8	2
Negro	0	5
Protestant A	7	3
Protestant B	4	2
(All Protestants)	(7)	(4)

H. DISCUSSION

1. Religious groups (both community based and student religious groups) in this study do not appear to differ from the college student populations of earlier studies in the matter of holding clear-cut stereotypes about social groups. This may be a matter of some concern to religious leaders who are presumably endeavoring to achieve a very different orientation toward other human beings in their populations.

2. The American is identified in terms of characteristics no other group comes even close to matching. The descriptions which best fit American according to all eight subject groups in both the direct and the indirect description (see Footnote 5), are (*a*) "prefer professional careers," (*b*) "charitable," and—by all groups in the direct description and by six of the eight groups in the indirect description—(*c*) "prepare for the future."

The trait considered as "least fits" American, unanimously in the direct description and by seven of the eight groups in the indirect description (see Footnote 5), is "frugal (thrifty)."

Not even one subject group has been unanimously selected as having any of these traits, and every subject was, in fact, a resident of the United States. Only a portion (an average of 19.95 per cent) of Protestants categorize themselves "I am American." Most Catholic subjects (84.0 per cent) and Protestant subjects (68.4 per cent) classify themselves as "hyphenated Americans": that is, American-Catholic or American-Protestant, but at all events do include American in their own classification.

Since Protestants and Catholics identify with American it might be expected that one of these groups' descriptions would resemble the description of the American; however, neither Protestants nor Catholics are seen by themselves or by other groups to fit the description of American.

What is an American? He is not the same personality in the eyes of all subject groups. Is this a favorable label, American; is this an ideal; or is it

"someone else"? Or is it that ethnic and religious groups, realizing themselves only parts of a whole, feel somehow that the whole is greater than the sum of all its parts? Or does the individual preserve the picture of the American but feel that he and his group will act as they please?

3. Protestants, who comprise the greatest number of subjects in this study, in the American society are not unanimously (among our subject groups) described by any "best fits" or "least fits" trait, nor do the four Protestant subject groups assign any positive trait to themselves except that three of the four Protestant groups in indirect description assign "spiritually oriented" and "charitable" to themselves. Is this because being the majority no one feels the need to "pigeon hole" but readily judges people as individuals? Or are members of the Protestant majority all rated "regular fellows," in neither extreme of "best fits" or "least fits"? It may be noted that half or more of the subject groups do describe the Protestant through the indirect description (see Footnote 5) as least fitting the following characteristics: (*a*) "maintain group loyalty," (*b*) "religiously oriented," and (*c*) "spiritually oriented." One of these "least fits" traits is claimed by three of the Protestant subject groups as *being characteristic* of themselves: namely, "spiritually oriented."

4. In the self-evaluation, the Jewish subject group lists more "best fits" traits (indirect description) than any other subject group lists in its self-evaluation. The Jewish subject group not only agrees with the "best fits" description of the category "Jewish" presented by the majority of subject groups, but also adds to the "best fits" picture.

The Jewish subject groups also accept the "*least* fits" characterizations half or more of the subject groups ascribe to the category "Jewish" according to the direct analysis (Table 3): that is, (*a*) "enjoy manual labor," (*b*) "prefer farming careers," and (*c*) "fair in business dealings" (listed both as "best fits" and "least fits").

The Jewish subject group comes closest in its self-evaluation to having more of the characteristics suggested as American by half or more of the subject groups. Is the Jew in America so adaptable that he visualizes himself as having the characteristics of the unidentifiable American? As has been noted, the general feeling among all subject groups, to a lesser extent, identifies more American characteristics as being within the Jewish group.

Is the Jewish self-evaluation then equated with his characterization of the American? The fact that some Jews also agree with the one "least fits" trait, "fair in business dealings," that has been a pogrom-creating canard directed against the Jew down through the ages, might indicate that the

Jewish group departing from the Jewish heritage which presumably fosters understanding and concern for others and stresses the equality of man?

Similarly, the recent study by Bogue and Dizard (4) specifically reports Jews as being most prejudiced toward Negroes when the question is primarily keyed to intermarriage. These findings run counter to earlier studies which suggest the Jewish group and nonreligiously affiliated individuals are most free of prejudice (1, 10).

However, Jewish subjects in this study do appear to be prejudiced toward the Negro, in contrast to some earlier findings. The characterization of the Negroes with the most "least fits" traits by Jewish subjects in this study is puzzling since almost half of the Jewish subjects are members of a Jewish fraternity which invites the Negro fraternities for an annual dance. Such social mingling is otherwise unprecedented on this midwestern campus.

The Jewish subjects' description of the Negro seems essentially a reflection of the prevailing biased thinking about the Negro. However, in personal relations with Negroes the Jewish individual may more nearly reflect Jewish tradition, which stresses equal rights for all men.

The apparent present involvement of members of the adult Jewish community in the Negroes' fight for civil rights and the specific concern of Jewish defense agencies in achieving equality for the Negro suggest action more nearly keyed to prophetic tradition. However, since the Jewish population of the United States of America is primarily urban and resident chiefly in the largest cities, can it be that the great predominance of Negro crime in large cities may have frightened the Jewish residents, especially since Negroes appear to move more easily into Jewish neighborhoods than into other non-Negro parts of a city?

There are several possible explanations as to why Jewish subjects in this study appear more prejudiced toward the Negro than in some earlier research. Subjects in this study were not asked to rate Negroes as a single group. Jewish subjects may be sensitive to direct questions of bias, wishing to give the socially acceptable answer of not being prejudiced. Since the subjects were not called upon to rate any specific group, they were presumably not on guard.

8. In the case of the Catholic, all traits presented are on the "best fits" side of the ledger according to both descriptions. Catholic is described unanimously by both direct and indirect descriptions as spiritually oriented, and as religiously oriented by seven out of the eight groups in the direct description and by all eight in the indirect description (see Footnote 5). In addition, half or more of the groups feel the Catholic best fits the description (*a*) "maintain group responsibility" and (*b*) "maintain group loyalty." Does this suggest

the secure position of the Catholic in the midwestern community where the study was done?

The only "least fits" trait listed for Catholic by both methods (Footnote 5) by Protestant student subject groups is "enjoy reasoning." In the area of religion, Catholic subject groups indicate Protestant "least fits" "religiously oriented" according to both descriptions; whereas Protestant subject groups attribute to Catholic, according to both methods, "religiously" and "spiritually oriented." An interesting question may be raised here about the opinion of each of these religious groups concerning a possible conflict between reasoning on the one hand and religious, spiritual experiences on the other hand.

9. There are no "least fits" traits attributed to the Catholic by the Catholic subject group and there are many "best fits" traits concerning which the Catholic subjects and half or more of the other subject groups agree about Catholics. Does this suggest that minority status in the United States does not automatically have to create inner feelings of unworthiness or inferiority? The responses of the other groups about the Catholic also suggest that the minority is not "automatically" criticized by his neighbors.

10. Is the Jewish group essentially a religious or an ethnic group? It is apparent from the mixed response of Jews that the Jewish group's identification with the term "Jewish" is different from the identification of the other religious groups. Do those Jews who identify themselves exclusively as Jews think differently from Catholics and Protestants who report that their religious identification involves frequent attendance at services? The Jewish subject group least frequents its house of worship. Are Jews less concerned about formal worship than other religious groups; are they essentially more of an ethnic group rather than a religious group? This study suggests that group stereotypes are part and parcel of society's everyday thinking. However, this study does not attempt to evaluate the effect of stereotyped thinking on subjects' actions.

The Jewish group is noted as "least fits" "fair in business dealings," yet both college students and local residents may shop in Jewish owned stores; they may never associate the stereotype with the store (unless something goes wrong). On the other hand, a negative stereotype may be immediately crippling. A qualified individual may not find gainful employment because the employer seeks an industrious worker and the applicant is a Negro. The picture might change, of course, during a critical labor shortage when the employer might disregard the Negro stereotype and think in terms of the individual and the need.

11. Protestant B is the only subject group where there is agreement be-

tween students and community members in answering both the "I am ——" question and in describing their own group according to the 21 characteristics. Does this lack of deviation suggest greater security within the Protestant B subject group? Do they feel they more nearly represent the mainstream of American life? Yet, they do not as readily use the hyphenated label American as do the Catholic subject groups.

12. In America, being antireligious (as contrasted with being neutral or uninterested) is probably generally considered un-American. Does the unanimous feeling that Russians are least "religiously oriented" and least "spiritually oriented," according to both direct and indirect descriptions, suggest uneasiness and possibly fear of the Russians? Is fear of the Russians or admiration of them suggested by half or more of the subject groups stating that the Russian "best fits" (see Footnote 5) (*a*) "emphasize physical fitness" and (*b*) "prepare for the future." It should be remembered that the present data were collected shortly after the Russians won most firsts at the Olympic games.

Is unfamiliarity or possibly anxiety observable in the following traits which *least* characterize Russians according to direct descriptions (see Footnote 5): (*a*) "close family ties," (*b*) "enjoy reasoning," (*c*) "maintain group loyalty," (*d*) "prefer art or literary careers," (*e*) "fair in business dealings," and (*f*) "charitable."

As can be seen, the Negro group which is described as having the greatest number of "least fits" traits among Americans has even one more "least fits" trait than the Russians. The question arises whether there may be a similar set of fearful feelings toward both the Russian and the Negro. It should perhaps be noted here, especially, that all but one of the respondent groups in the present study were members of religious groups.

There are fewer "least fits" characteristics assigned to the Russians by the indirect description than by the direct description (see Footnote 5). However, the same number of "least fits" characteristics are ascribed to the Negro by both the direct and the indirect description. Does this suggest that uneasiness toward the Negro is more deep seated than that toward the Russian? The Negro, of course, is close at hand and the Russian is far away. If thousands of Russians were introduced into America by some cultural exchange program and then proceeded to live in close proximity with Americans in many communities, would they receive more ready acceptance than does the dark-skinned American?

13. Unquestionably, all of the subject groups of this study have much

more information about an American than they do about a Mohammedan. They assign no traits to the Mohammedan and many to the American. Also they presumably know more about a Protestant than about a Mohammedan. And yet they assign no "best fits" traits to the Protestant either directly or indirectly, and "least fits" traits only indirectly. This appears to mean that absence of characteristics assigned in a stereotype means different things in different connections. This question is proposed for further investigation, since there are no explanations available in the present study.

14. Another interesting question that can be raised is what differences there may be in feelings towards groups that are usually described by characteristics that they *do* have (Catholic, French, Irish, Italian) as contrasted with those that are usually described with characteristics that they *do not* have (English, Mormon, Negro, and Russian). Is there a more negative feeling towards those said *not* to have certain traits?

15. When "least fits" characteristics are observable in both direct and indirect description, does this suggest deep-seated opinions as contrasted to characterizations observable by only one method? Does a characterization which remains the same according to both the direct and the indirect analysis suggest that such opinions are deep-seated? Evaluating the same data both by direct and by indirect declarations might help agencies concerned with developing the democratic ideal identify the strength with which opinions are held.

16. In order to create one world it seems fundamental that men believe that individual differences do exist in all parts of the globe and that individuals must be considered apart from any group stereotype. Our age increasingly stresses the value of uniformity in manufactured products. Does this make it increasingly difficult to comprehend that, though every person is cast in the same human mold, each individual is unique?

17. Several extended studies suggest themselves, one being to get other, nonreligious groups to respond to the same instrument. Another would be to devise some way of observing and recording the actual interactions between subjects and individuals from each of the social groups listed. A further valuable study would be to get an adequate sample of each of the nine social groups not represented among the subject groups in order to see what characteristics they would ascribe to each of the 13 other social groups. Still another study could be developed along the lines of more sets of 21 characteristics to determine how much the nature of characteristics presented may influence the assigning of characteristics to different social groups.

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